

# NAVAIR SE Status And Metrics Overview Presentation



NAVAIR Systems Engineering  
27 September 02



# Metrics Presentation Development Process

- Living document presentation given today.
  - Feedback from today's presentation will be rolled into next presentation.
- In parallel, NAVAIR SE is further researching, evaluating and updating slides.
  - Their input will be injected into future presentations.
- Metrics will go through the following stages: prototype, researched, baselined, analysis and corrective actions.
- Our goal is to evolve this living document, over the next months, into an effective tool to accurately describe NAVAIR Systems Engineering's technical efforts in support of NAVMPS.
- Note: This presentation shows the status of different NAVAIR SE groups against a common chart. While the chart is common, the legend for the chart varies for each group.



# NAVAIR SE Activities Overview

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1. Program Status
  - Update on Website Status
  - TOB Functionality Assessment
2. Requirements Management
3. JMPE Systems Engineering
  - Design Verification
4. Test & Integration
5. UPC Integration
  - UPC Technical Assessment
6. Product Integrity
7. S&T
8. Risk/Issue Management



# 1. Program Status

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- Primary NAVAIR Systems Engineering Programmatic Concerns:
  - Milestone achievement
  - TOB success



# Website Access Initiated Process

1. User fills out access request form on website and submits it.

Name  
First:  Last:   
Address  
Street:   
City:   
State:  ZIP:   
Phone number: (  )  -



6. Web Administrator informs user of log on information by phone.



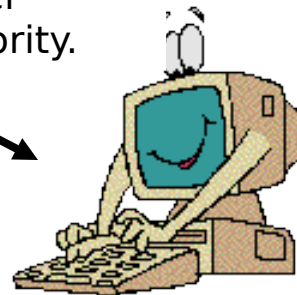
2. Web Administrator receives file and forwards to proper Authorizing Authority.



3. Authorizing Authority confirm user need.



4. Authorizing Authority informs Web Administrator of confirmation.



5. Web Administrator sets up user account.



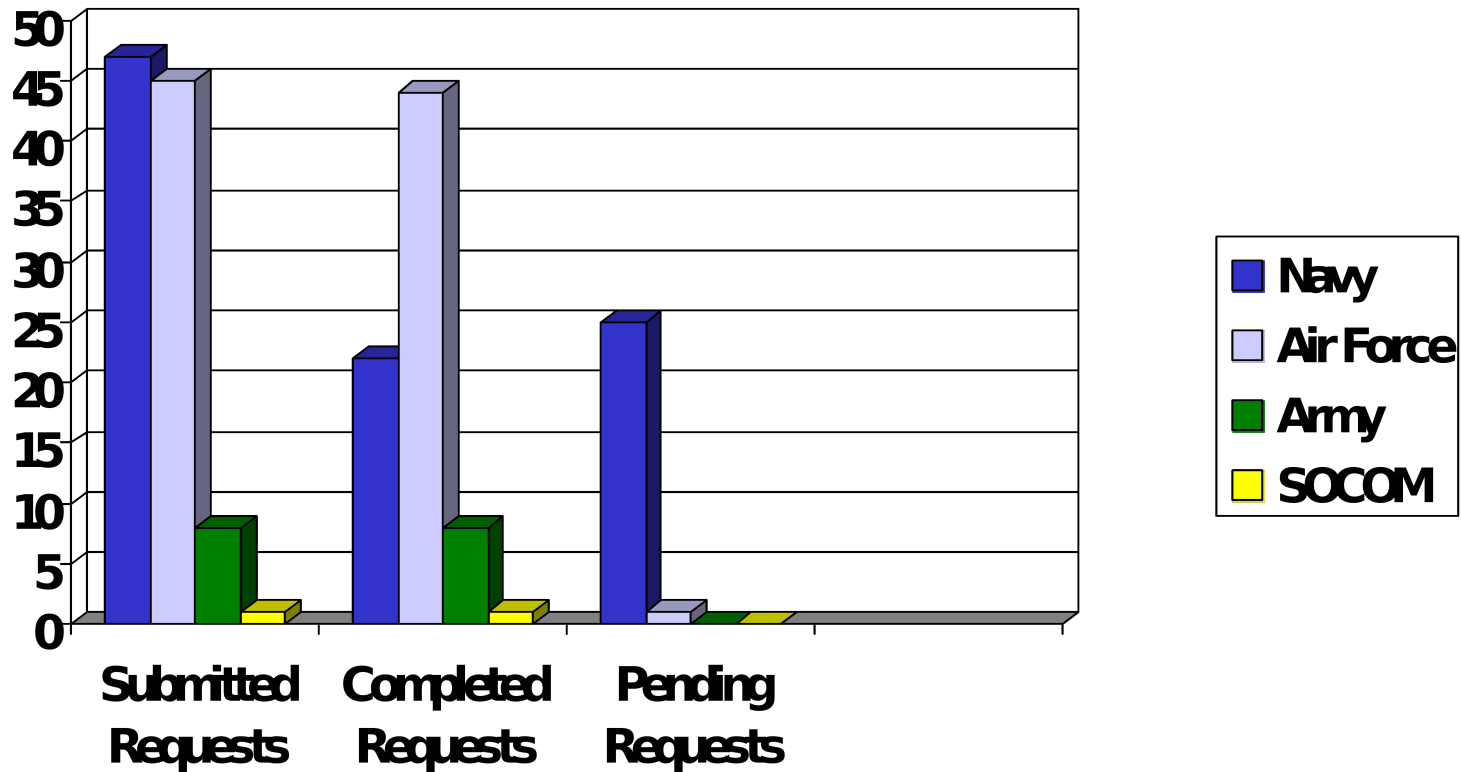
# Website Access Authorizing Authorities

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- Navy, Marine, Contractor
  - Cdr Ed Bellini, Tucker Horner, Kerry Wilson, Sharmella Riggs, Jocelyn Alston, Priscilla Oredugba, Gerardo Garcia, Dennis Klinger
- Air Force, AF Contractor
  - Gary Friedman
- Army
  - Hunter Matthews
- SOCOM
  - Nyle Wilcocks
- NGIT personnel on JMPS contract
  - Bill Aumack
- Requests not specifically listing one of these goes to Jocelyn/Priscilla for follow-up.



# Web Access Status\*

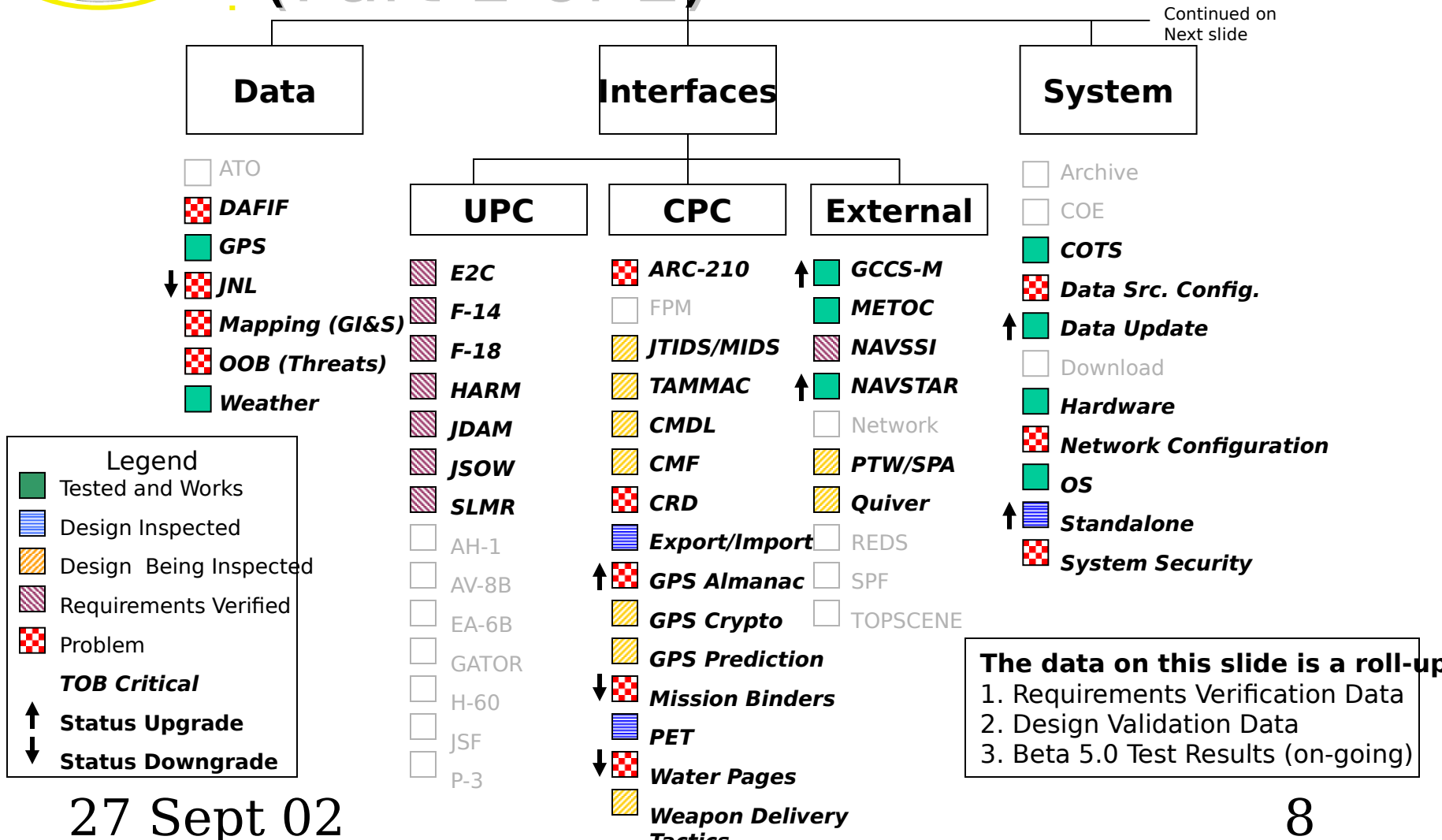


\*for requests received after process change (7/12/02)



# Are We Ready To Take TAMPS Off Of The Boat?

## (Part 1 of JMPS)



27 Sept 02





# Are We Ready To Take TAMPS Off Of The Boat?

## (Part 2 of Mission Planning)

### Tools

- ☐ Digital Target Materials
- ↓ ☒ **JTIDS Maintenance**
- ↑ ☒ **Map Display**
- ☐ Mission Binder Management
- ☐ Mission Rehearsal/Simulation
- ☐ Threat Parametric Services

#### Legend

- ☒ Tested and Works
- ☒ Design Inspected
- ☒ Design Being Inspected
- ☒ Requirements Verified
- ☒ Problem
- TOB Critical**
- ↑ **Status Upgrade**
- ↓ **Status Downgrade**

### Aircraft Planning

- ☐ Aircraft Performance Calculation
- ☒ **Flight Planning**
- ☒ **Mission Combat Planning**
- ☐ Mission Materials Management
- ☐ Mission Planning Forms
- ☐ Mission Tasking Processing
- ☒ **Multi-Unit/Strike Planning**
- ☒ **Recovery/Divert Definition**
- ☒ **Takeoff/Launch Definition**

### Weapons Planning

- ☒ **Weapon Allocation**
- ☒ **Weapon Engagement**

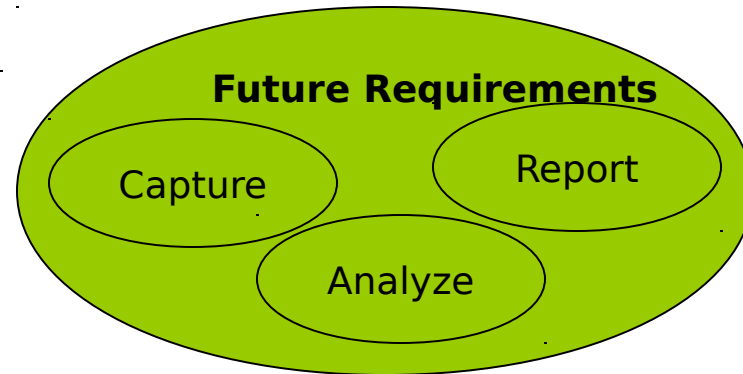
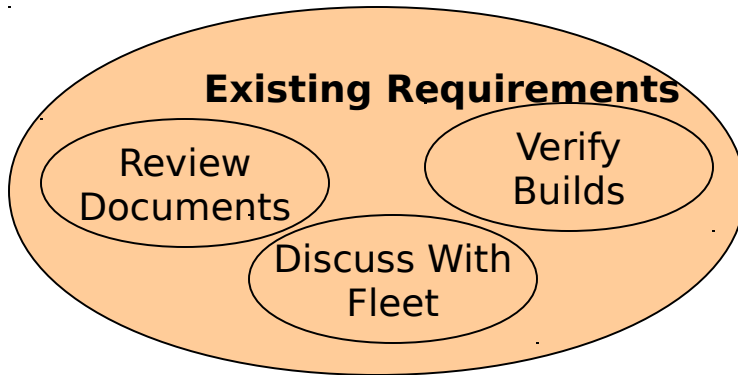
### Route Planning

- ☐ Linking
- ☒ **Multiple Routes**
- ☒ **Perspective Scene Fly-through**
- ↑ ☒ **Route Constraint Checking**
- ↑ ☒ **Route Generation**
- ☒ **Route Object Processing**
- ☒ **Route Tools**

**The data on this slide is a roll-up of**

1. Requirements Verification Data
2. Design Validation Data
3. JC1 0.1 Test Results

## 2. Requirements Management





# Are The Requirements\* Defined? (Part 1 of 2)

JMPSF

Continued on  
Next slide

## Data

- ATO
- 1 DAFIF
- GPS
- JNL
- 2, 3 Mapping (GI&S)
- 2 OOB (Threats)
- Weather

## Interfaces

### UPC

- E2C
- 2 F-14
- 2 F-18
- HARM
- JDAM
- JSOW
- 4 SLMR
- AH-1
- AV-8B
- EA-6B
- GATOR
- H-60
- JSF
- P-3

### CPC

- ARC-210
- FPM
- JTIDS/MIDS
- TAMMAC
- 2 CMDL
- CMF
- CRD
- Export/Import
- GPS Almanac
- GPS Crypto
- GPS Prediction
- Mission Binders
- PET
- Water Pages
- Weapon Delivery Tactics

### External

- GCCS-M
- METOC
- NAVSSI
- NAVSTAR
- Network
- PTW/SPA
- Quiver
- REDS
- SPF
- TOPSCENE

## System

- Archive
- COE
- COTS
- Data Src. Config.
- Data Update
- Download
- Hardware
- Network Configuration
- OS
- Standalone
- System Security

### Legend

- No Req. Issues
- Minor Req. Change
- Major Req. Issue
- Status Upgrade
- Status Downgrade

TOB Critical

\*Requirement sources  
- JV1 SSS V1.011  
- JC1 SDI V1.05  
- TAMPS 6.2.1 SS

27 Sept 02

11



# Are The Requirements\* Defined? (Part 2 of 2)

## Mission Planning

### Tools

- ☒ Digital Target Materials
- ☒ **JTIDS Maintenance**
- ☒ **Map Display**
- ☒ Mission Binder Management
- ☒ Mission Rehearsal/Simulation
- ☒ Threat Parametric Services

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- ☒ Aircraft Performance Calculation
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#### Legend

- ☒ No Req. Issues
- ☐ Minor Req. Change
- ☐ Major Req. Issue
- ☐ Status Upgrade
- ☐ Status Downgrade

**TOB Critical**

\*Requirement sources  
 - JV1 SSS V1.011  
 - JC1 SDI V1.05  
 - TAMPS 6.2.1 SS

27 Sept 02

12

# Requirement Issues



- 1) DAFIF; All
  - *No ability to create area of interest to filter DAFIF data (DR 2002-0139)*
    - *Loss of TAMPS like capability*
  - This may be corrected as part of the re-work NGIT is doing re: 'rubberbanding'
    - *make the DAFIF block YELLOW? Need to get definitive answer from Dave Pearson (OR Paul B) who was contacting NGIT.*
- 2) Mapping(GI&S); All UPCs
  - Magnetic Variation data not available to the UPCs as a public interface.
    - UPC developers need to 'work around' and access the data file themselves. If JMPs framework is changed and the file is modified/moved, then UPCs will need to make changes to their software.
    - Recommend MAGVAR data be provided as a public interface.
- 3) DTED; All
  - DTED not displayed in Print Preview
    - GNC, JNC, and ONC are displayed in Print Preview (DR 2002-1459)
    - Recommend User input be gathered to determine if this is a 'real issue'

# Requirement Issues



- 4) Water Pages; SLAM-ER
  - WP Elevation Not Seen By Route's DTED Retrieval Functions (DR 2002-1916)
    - It appears that Water Pages data is not being treated as DTED by Route DTED retrieval functions.
  - Water Page Coverage Not Managed by Map Data Manager (DR 2002-1918)
    - In order for planner to verify if DTED and/or Water Page (Constant Elevation) data is available in a particular region, the planner must open Water Pages to the view and also open the MDM. This is different from TAMPS where Constant Elevation is considered DTED and, as a result, is displayed on the coverage tool.
  - Input from SLAM-ER and NGIT is being provided to Jim Lacey for the IPT to make a decision.

# Requirement Issues

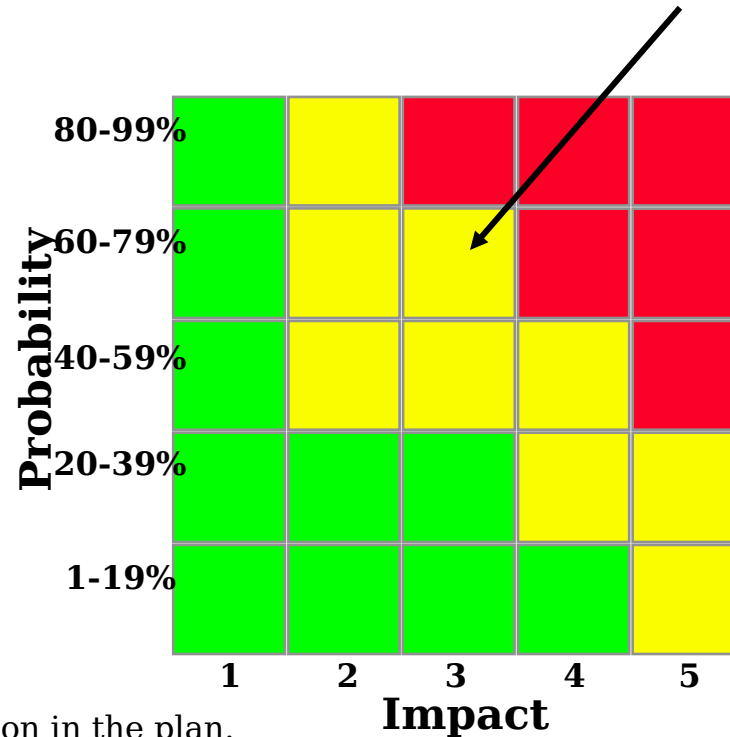


- 5) JTIDS; E-2C, F/A-18
  - Can not load Zipped JNL files
    - When selecting to Open/Import a zipped JNL file, JMPS hangs with HourGlass cursor.
  - Recommend that NGIT fix this to allow import of zipped files. Also important to allow zipped files for stand-a-lone mode.
- 6) Declassification of DTD (Brick and PCMCIA cards); All UPCs or just TAMMAC and E-2C???
  - Previously identified a problem with the PCMCIA card declassification (from the TAMPS/JMPS Trade Study) and the understanding that TAMMAC would be working on the solution and would share it with E-2C. This apparently is no longer true, and it is still an issue for both of them.
  - Also, TAMPS allows the User to declassify the entire DTD (brick or PCMCIA card). There appears to be no functionality in JMPS to support this. No requirements were specifically provided to NGIT regarding this functionality.
  - Much of how to implement this probably hinges on NSA. Recommend Dennis R. get involved regarding the CONOPS and a UPC discussion should be held regarding the criticality of these issues.



# Risks Being Addressed by Requirements

**JC1 #164 - Missing or Partial Requirements May Impact UPCs**



- High** - Major disruption in the plan. May require Level 1 management or PEO(T) assistance.
- Med** - Some disruption in the plan. May require Level 1 assistance.
- Low** - Little or no disruption. Can be managed with internal team.

27 Sept 02



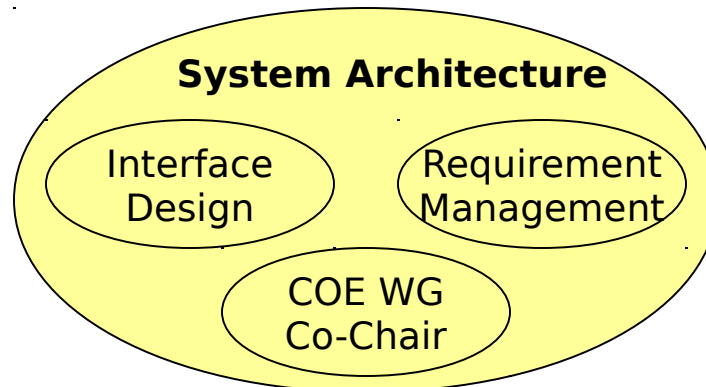
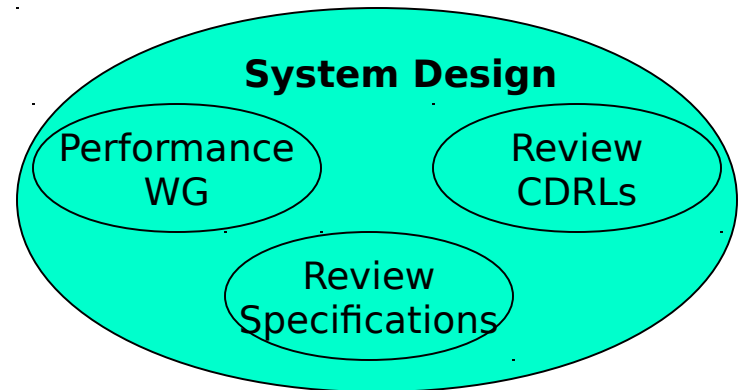
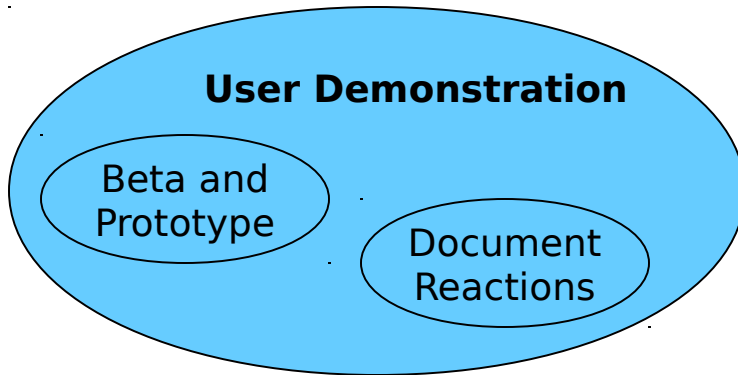


# Requirements Planned Program Contributions for October 02

- Top Planned Team Tasks
  - Support Deficiency Report meetings
  - Track/analyze JV1/JC1 Requirement issues arising from DR process and UPCs
  - Continue update of PFPS + tools vs. JV1/JC1 capabilities list
  - Mission Rehearsal Trade Study/Industry Day Planning
  - Participate in Navy biweekly teleconferences
  - Participate in Inter-Service Requirements Team biweekly teleconferences
  - Attend meetings for Future Common Capabilities for FY-03/FY-04 start
- Top Planned Team Leader's Tasks
  - FY-03 Planning
  - Participate in Navy biweekly teleconferences
  - Participate in Inter-Service Requirements Team biweekly teleconferences
  - Interface with other Focus Leads regarding Requirements issues

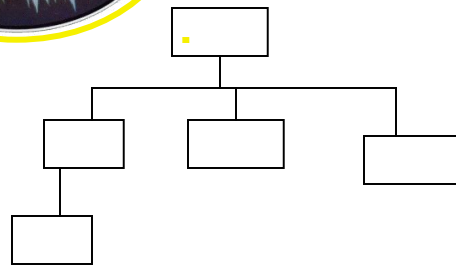


# 3. JMPE Systems Engineering

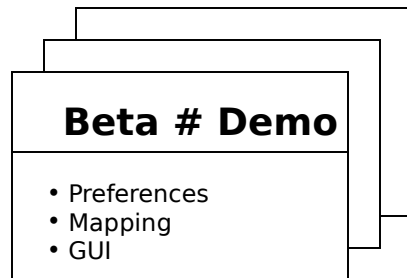




# JMPE Verification Process: Product Cross Reference



**Metrics  
(Barry Chart)**



**User Demonstrations**

Packages	ID	Contractor
Route Object	13	NGIT
Explorer	42	NGIT

**Inspection Packages**

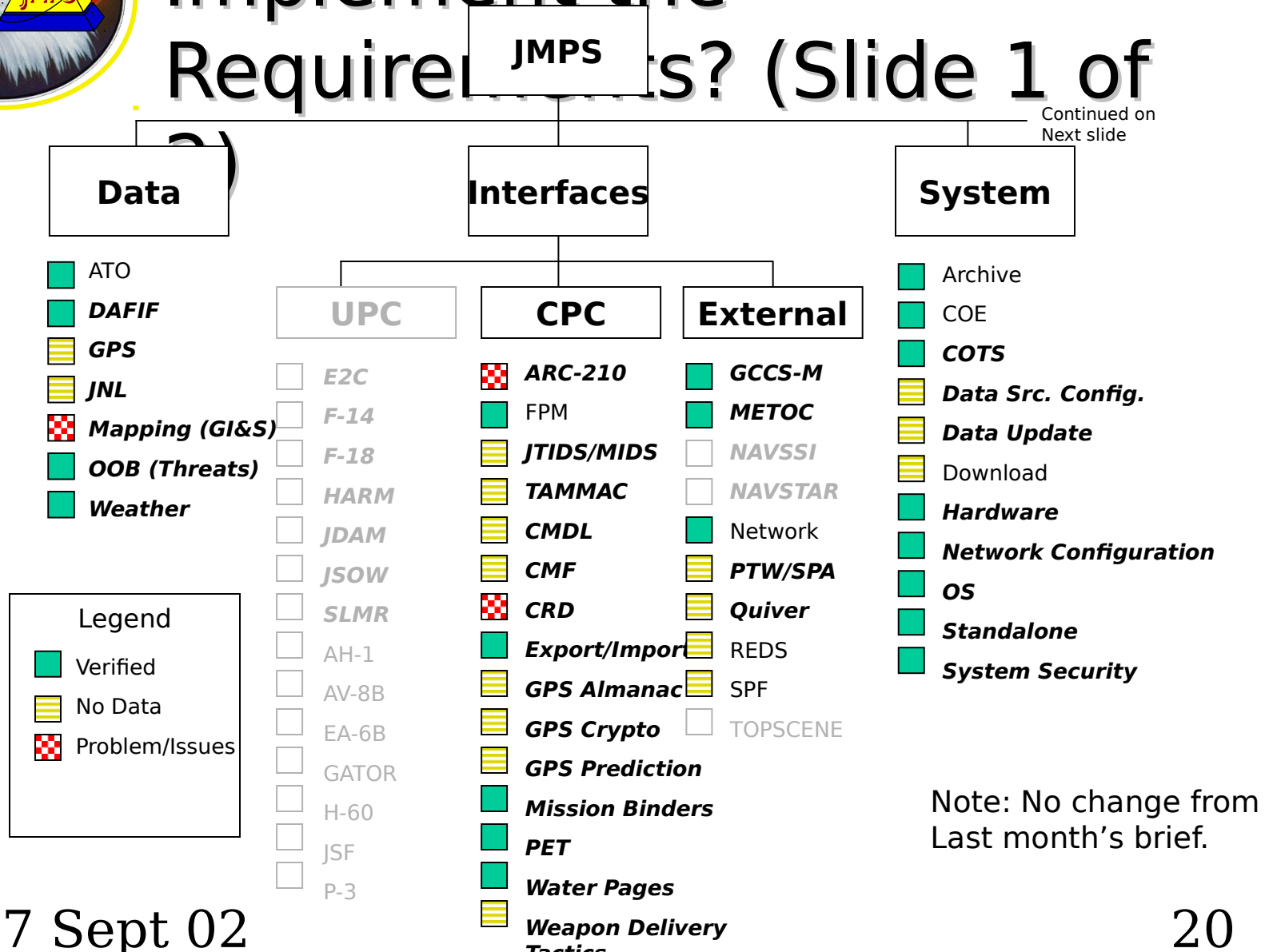
**Development Artifacts (Requirements)**

- SSS
- High Level Use Case
- CDRLs



# Does the Design Correctly Implement the Requirements? (Slide 1 of 2)

Continued on Next slide



27 Sept 02

20



# Does the Design Correctly Implement the Requirements? (Slide 2 of 2)



Note: No change from Last month's brief.



# Verification (Slide 1 of 2)

Element						
Level	Component				System	
Attribute	Completeness		Quality		Completeness	Quality
	Design	Code & Tested	Performance	Defect	Beta/Prototype Integrated	Demonstration
ARC-210						
Flight Planning						
Mission Material Management						
Mission Planning Forms						
Route Generation						
Route Object Processing						
Route Tools						
Mapping (GI&S)						



# Verification (Slide 2 of 2)

- **ARC-210:**
  - COE compliance, experimenting with process.
  - Tracked internal as a watch Item
- **Flight Planning:**
  - Overall performance
  - Tracked via Risk JV1 021, 016
- **Mission Material Management:**
  - Investigating usability and performance
  - Tracked internally as a watch Item
- **Mission Planning Forms:**
  - Investigating usability and performance
  - Tracked internally as a watch Item
- **Route Generation:**
  - Monitoring Performance
  - Tracked internally as a watch Item
- **Route Object Processing:**
  - Investigating design changes to various Route related components(JV1 039)
  - Tracked via Risk JV1 039
- **Route Tools:**
  - Investigating design changes to address PGM Route, and usability
  - Tracked via Risk JC1 074 & JV1 039
- **Mapping (data):**
  - API changes to support NIMA products (VMAPO, DTED, MAGVAR)
  - Tracked via Risk JC1 164)



# Summary of JMPE Activities

1. Verified\Repeated NGIT compilation procedures
  - **Identified that delivered source code has been incomplete.**
  - **Stepping up CM monitoring.**
2. Continued Code Inspection
  - **Investigated VMAP 0 APIs, will look into Error handling components next.**
3. Continued CDRL review
  - **Tracking JC1 Elaboration Use Cases, will be working with T&I on timing related issues.**
4. Started investigating COE 4.6 impact to JMPS
5. Monitoring CJMTK
  - **Reviewing COE MCG&I functionality /architecture**

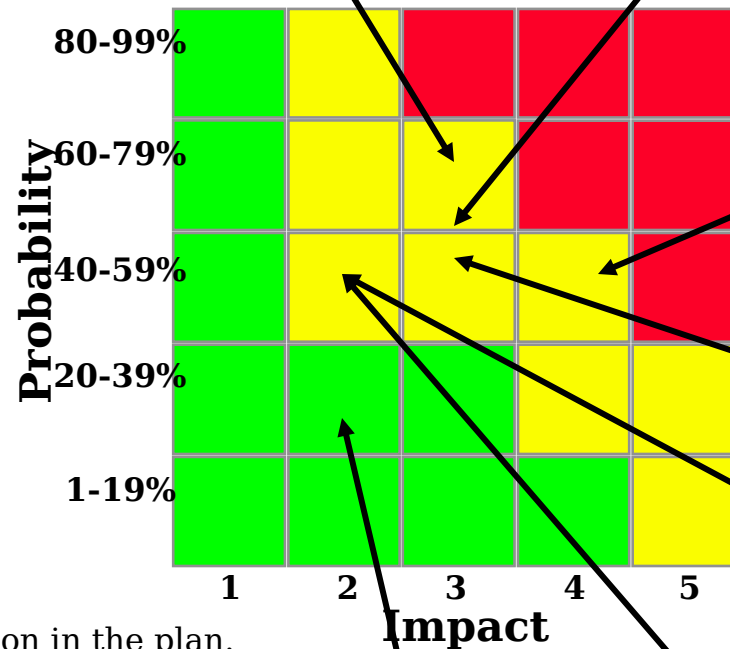




# Risks Being Addressed by JMPE

**JC1 #164 - Missing or Partial Requirements May Impact UPCs**

**JV1 #021 - JMPS V1 System Performance Excluding Mapping Performance**



**JV1 #016 - Meeting User Expectations for MAP Performance**

**JV1 #039 - Impact of Unknown Interface/Design Changes**

**JC1 #074 - Parallel Development with UPCs**

**JC1 #171 - DII COE v4.6 Impact to JC1 (watch)**

**JC1 #159 - JC1 Overall System Performance**

**High -** Major disruption in the plan. May require Level 1 management or PEO(T) assistance.

**Med-** Some disruption in the plan. May require Level 1 assistance.

**Low** - Little or no disruption. Can be managed with internal team.

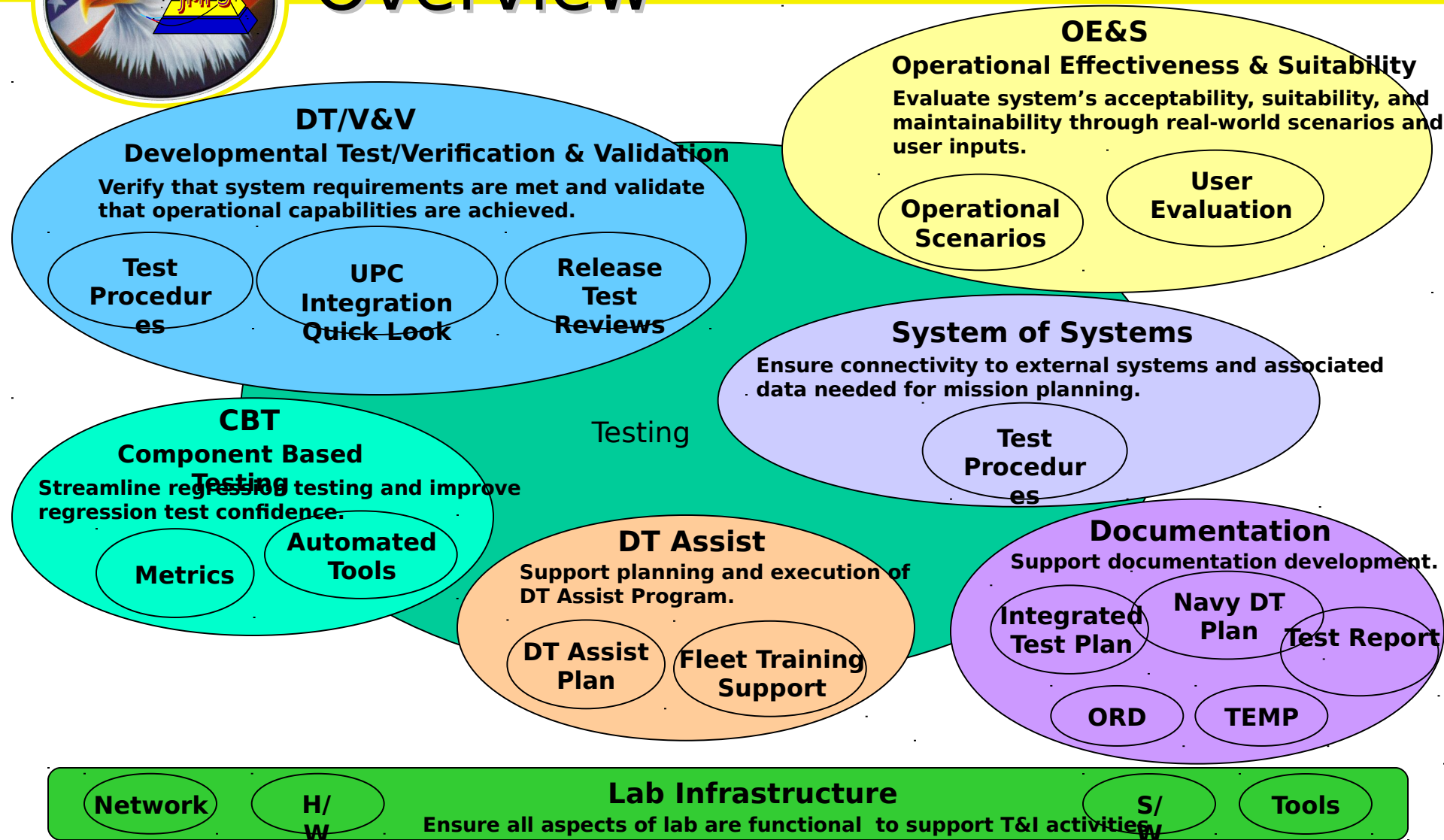


# JMPE Planned Program Contributions for October 02

- Top 5 Planned JMPE Team Tasks
  - Continue Map Timing to Screen Shots
  - Investigate ESRI ArcObjects, ArcIMS, ArcSDE and MOJE products
  - Continue Develop Installation Capabilities and Component CM
  - Audit Route and Mapping capabilities
  - Perform specific duties per SE to do list

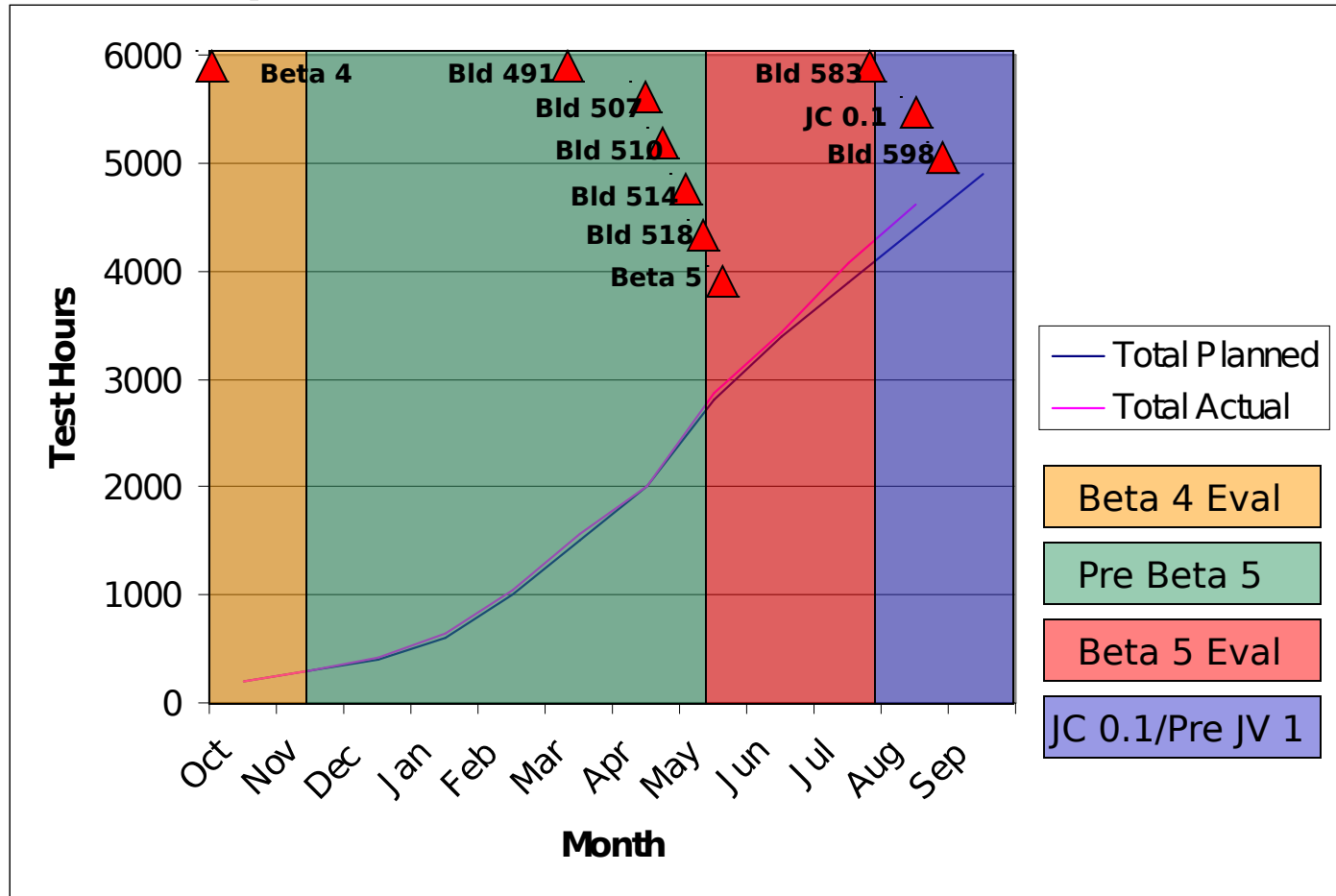


# 4. Test & Integration Overview





# What is the Progress of NavMPS Testing (Through September)?





# What Are The Beta 5.0 Test Results?

(Slide 1 of 5)

JGPS

Data

- ATO
- DAFIF
- GPS
- JNL
- Mapping
- OOB (Threats)
- Weather

Interfaces

UPC

- ☐ E2C
- ☐ F-14
- ☐ F-18
- ☐ HARM
- ☐ JDAM
- ☐ JSOW
- ☐ SLMR
- ☐ AH-1
- ☐ AV-8B
- ☐ EA-6B
- ☐ GATOR
- ☐ H-60
- ☐ JSF
- ☐ P-3

CPC

- ☐ ARC-210
- FPM
- ☐ JTIDS/MIDS
- ☐ TAMMAC
- ☐ CMDL
- ☐ CMF
- ☐ CRD
- ☐ Export/Import
- GPS Almanac
- ☐ GPS Crypto
- ☐ GPS Prediction
- ☐ Mission Binders
- ☐ PET
- ☐ Water Pages
- ☐ Weapon Delivery Tactics

External

- GCCS-M
- METOC
- ☐ NAVSSI
- ☐ NAVSTAR
- Network
- ☐ PTW/SPA
- ☐ Quiver
- ☐ REDS
- ☐ SPF
- ☐ TOPSCENE

System

- Archive
- COE
- COTS
- Data Src. Config.
- Data Update
- Download
- Hardware
- Network Configuration
- OS
- Standalone
- System Security

Continued on Next slide

## Legend

- Passed Test
- Pri 3 or Pri 4 Defect Found
- Pri 1 or Pri 2 Defect Found
- Functionality not in Beta 5
- Not Tested
- Not a JV 1 Function

Note: No change from Last month's brief.



# What Are The Beta 5.0 Test Results?

(Slide 2 of 2)

## Mission Planning

### Tools

- ☐ Digital Target Materials
- ☐ JTIDS Maintenance
- ☒ **Map Display**
- ☐ Mission Binder Management
- ☒ Mission Rehearsal/Simulation
- ☒ Threat Parametric Services

### Aircraft Planning

- ☒ Aircraft Performance Calculations
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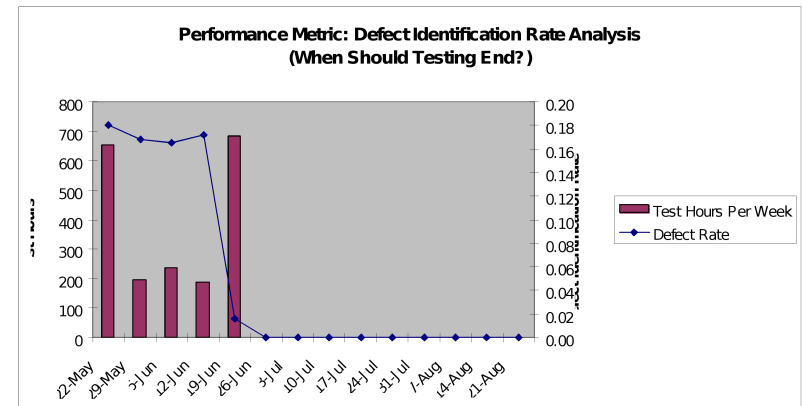
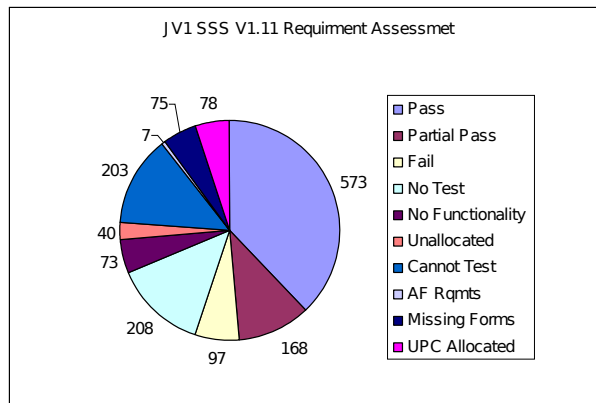
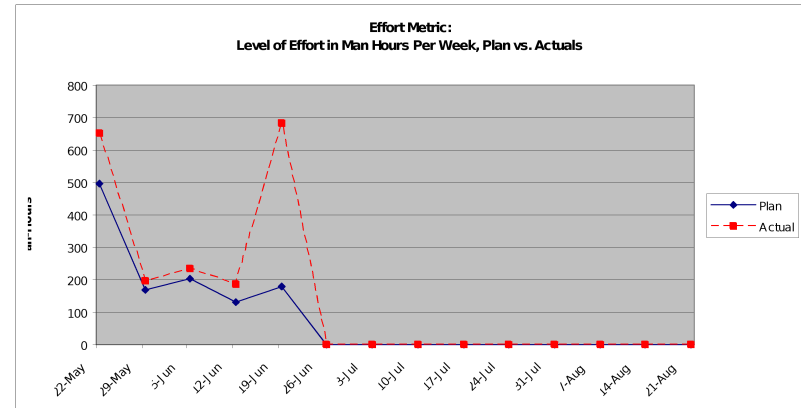
27 Sept 02

30



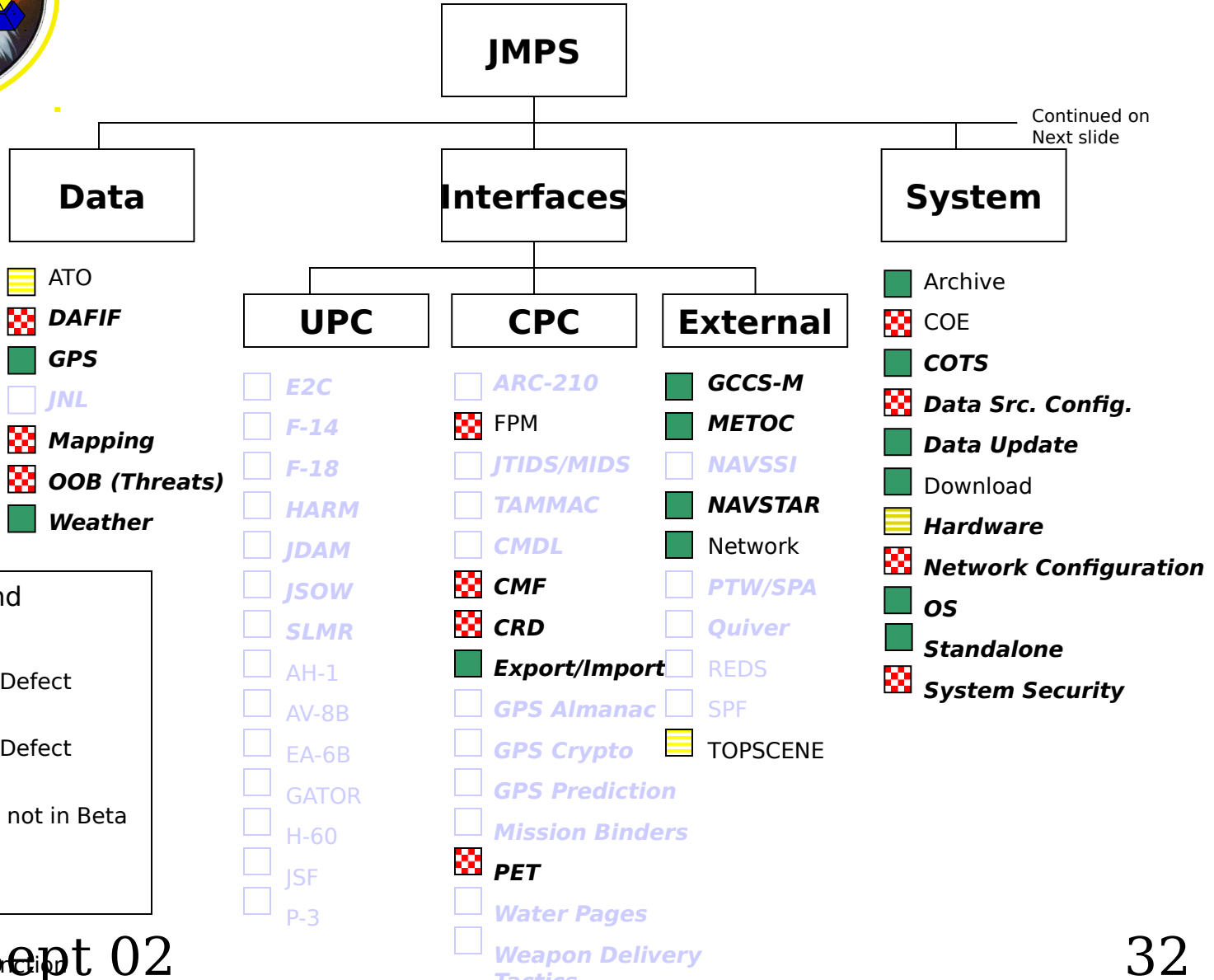
# Summary of Build 5.0 Testing

Number of Tests Planned:	40
Estimated Test Man-Hours:	1180
Tests Performed To Date:	40
Actual Man-Hours To Date:	1953
Defects Found To Date:	241
Average Number of Defects Found Per Test:	6.025
Defect Rate (Defects Found / Hours):	0.123





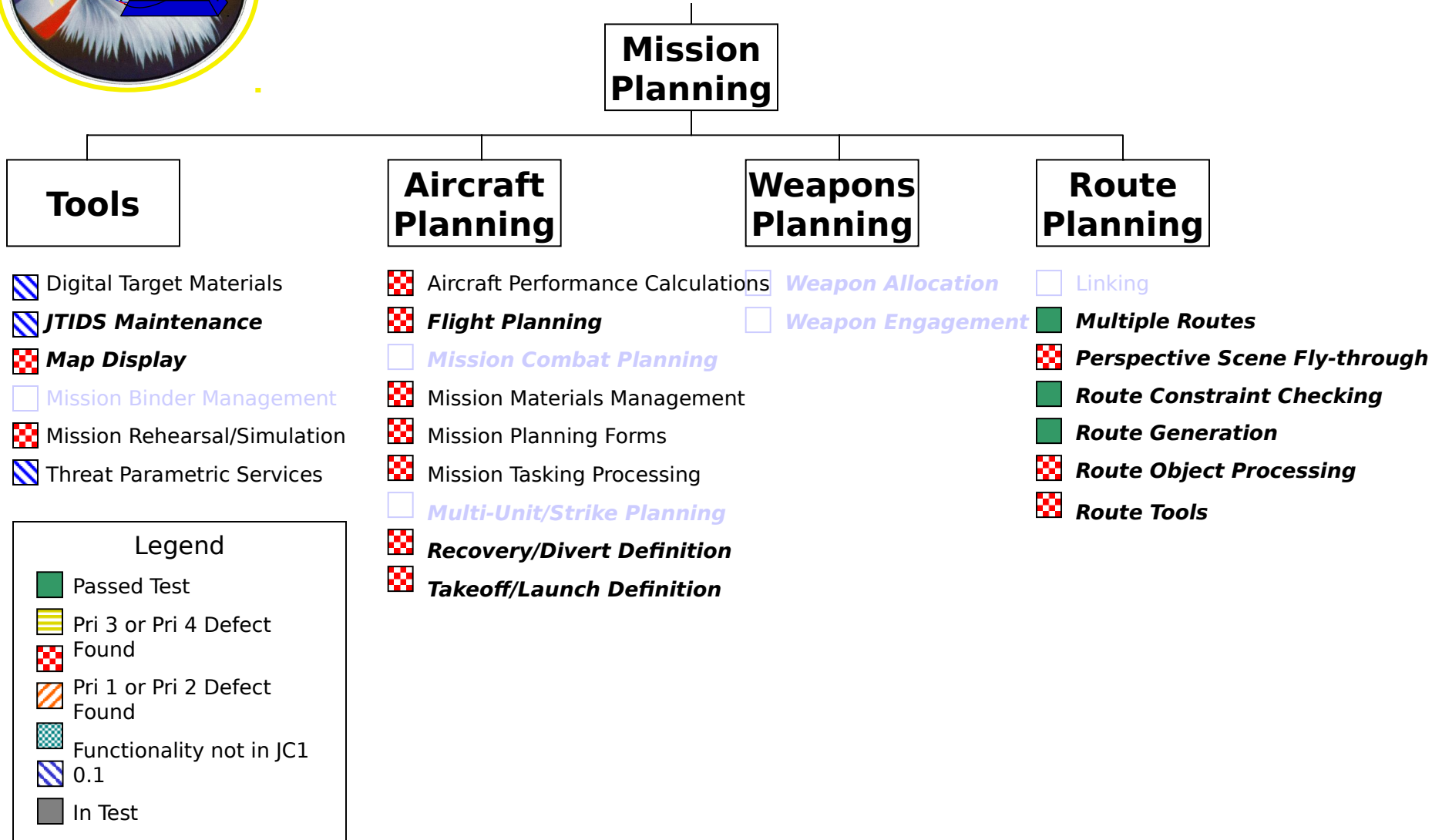
# What Are The JV1 Build 598 Test Results? (Slide 1 of 2)







# What Are The JV1 Build 598 Test Results? (Slide 2 of 2)



Not Tested

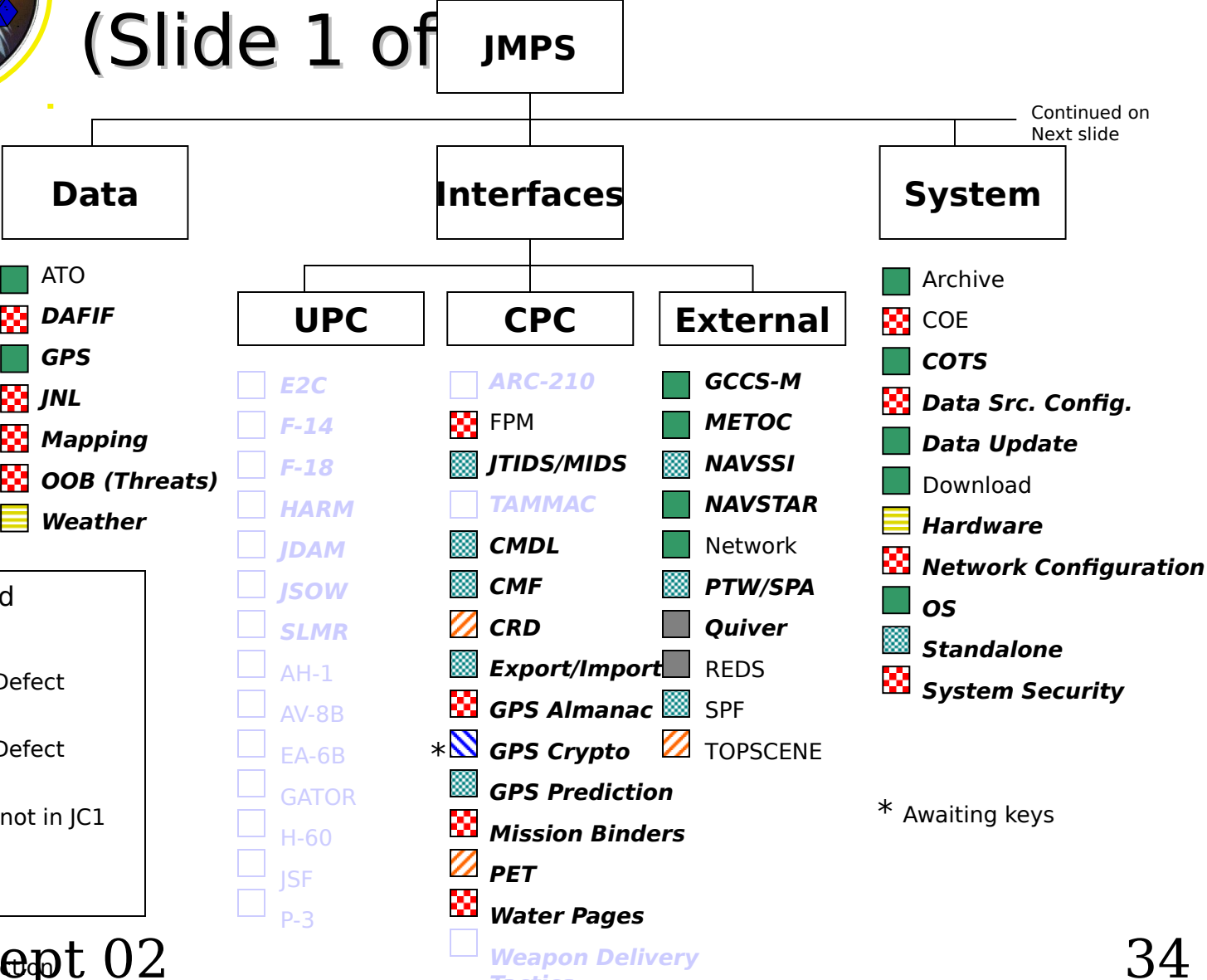
27 Sept 02

Not a JV 1 Function



# What Is The JC1 0.1 Test Status?

(Slide 1 of JMPS)





# What Is The JC1 0.1 Test Status?

(Slide 2 of 2)

## Mission Planning



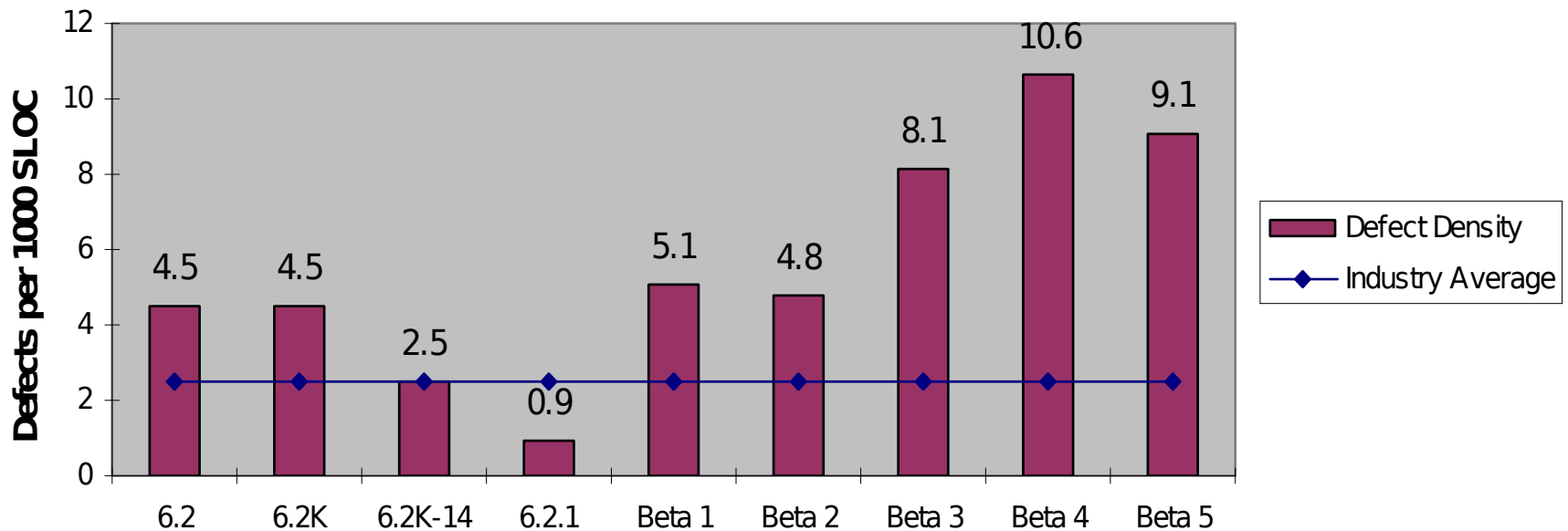
Not Tested

27 Sept 02

# What is the JMPS Defect Density?



## Historical Mission Planning Defect Density

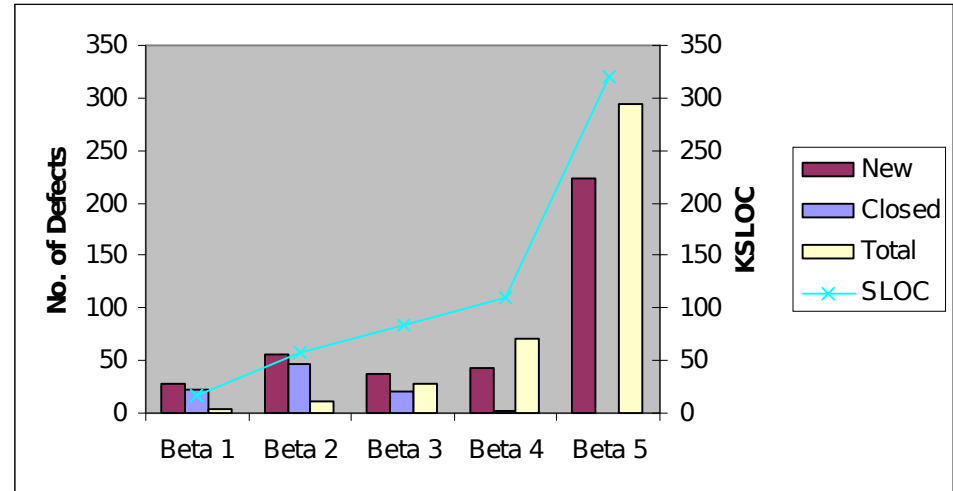


Note: Industry average Defect Density based on SEI CMM figure.  
JMPS Beta Values base on composite of Vendor and Government Defects.

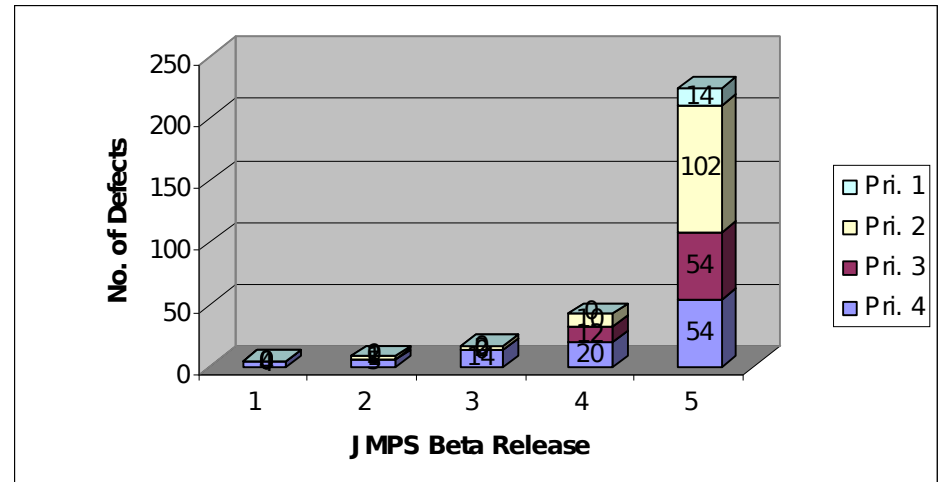


# What Is the Current Defect Trend?

**Total Number of Gov't Defects held against JMPS V1.0 (20 Jul 2002)**



**Total Number of Open Gov't Defects held against JMPS V1.0 (20 Jul 2002)**





# Risks Being Addressed by T&I

**JC1 #003 - JMPS V1 Acceptability and/or Rework**

**JV1 #047 - Problem Correction Capacity**

**JC1 #163 - JC1 Testing**

80-99%

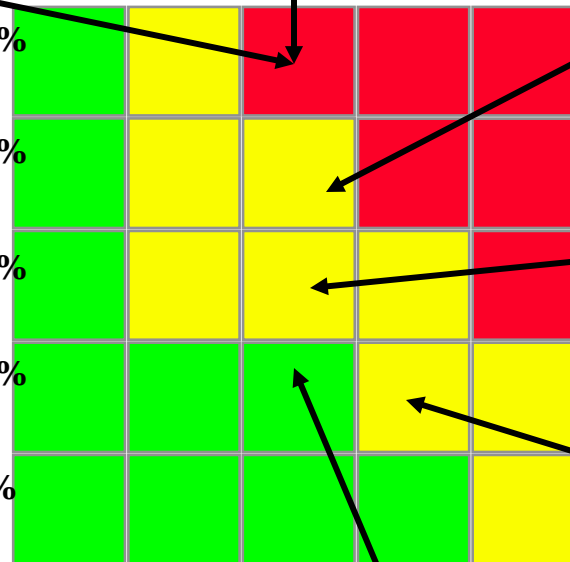
60-79%

40-59%

20-39%

1-19%

Probability



**JC1 #054 - Parallel Development With External Interfaces**

**JC1 #176 - RTM Implementation Accuracy May Effect OT**

**Impact**

**JV1 #051 - Government DR Process**

- High -** Major disruption in the plan. May require Level 1 management or PEO(T) assistance.
- Med-** Some disruption in the plan. May require Level 1 assistance.
- Low-** Little or no disruption. Can be managed with internal team.

# Test Team's Planned Program Contributions for October 02

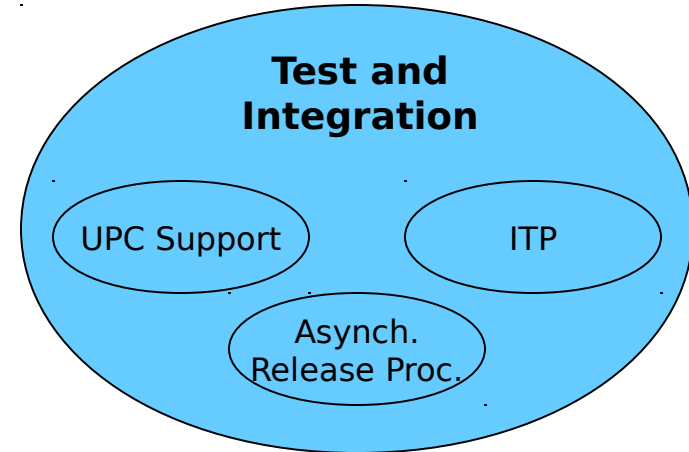
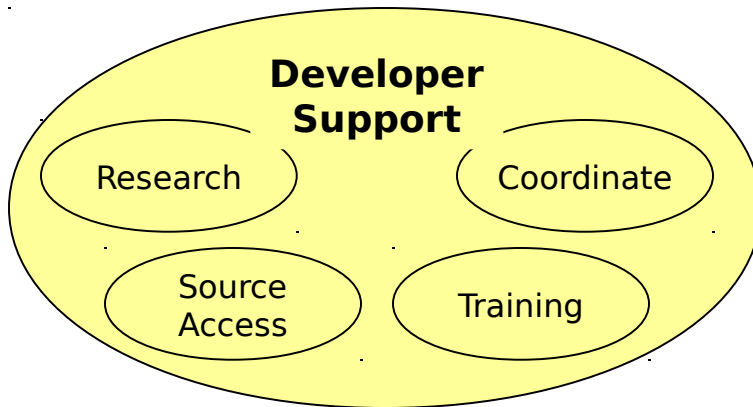
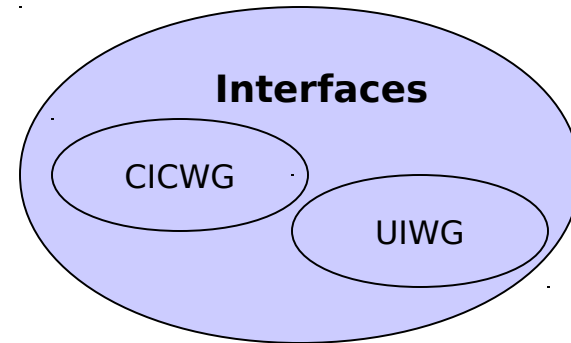
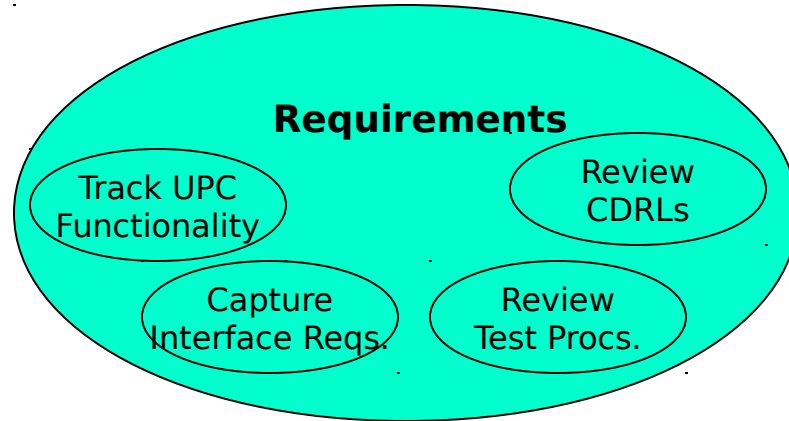


- Top 5 Planned Test Team Tasks
  - Evaluate Beta 5.2
    - Suitability for Enhanced DT
    - Perform DR Verification
  - Execute Enhanced DT Testing
  - Participate in NGIT JC1 Release Testing
  - Complete evaluation of JC1 0.1
    - Suitability for UPCs
    - Regression / Functionality
  - Participate in JV1 FQT

- Top 5 Planned Test Team Leader's Tasks
  - Complete FY03 master test schedule and team roadmap
  - Obtain AF approval of Beta 5.0 Final Report
  - Develop weekly DR metrics
  - Work with AF on Autometrics Evaluation replan
  - Work with AF and NGIT to finalize JC1 Entry/Exit Criteria for TRR, RRR, and ITCRR



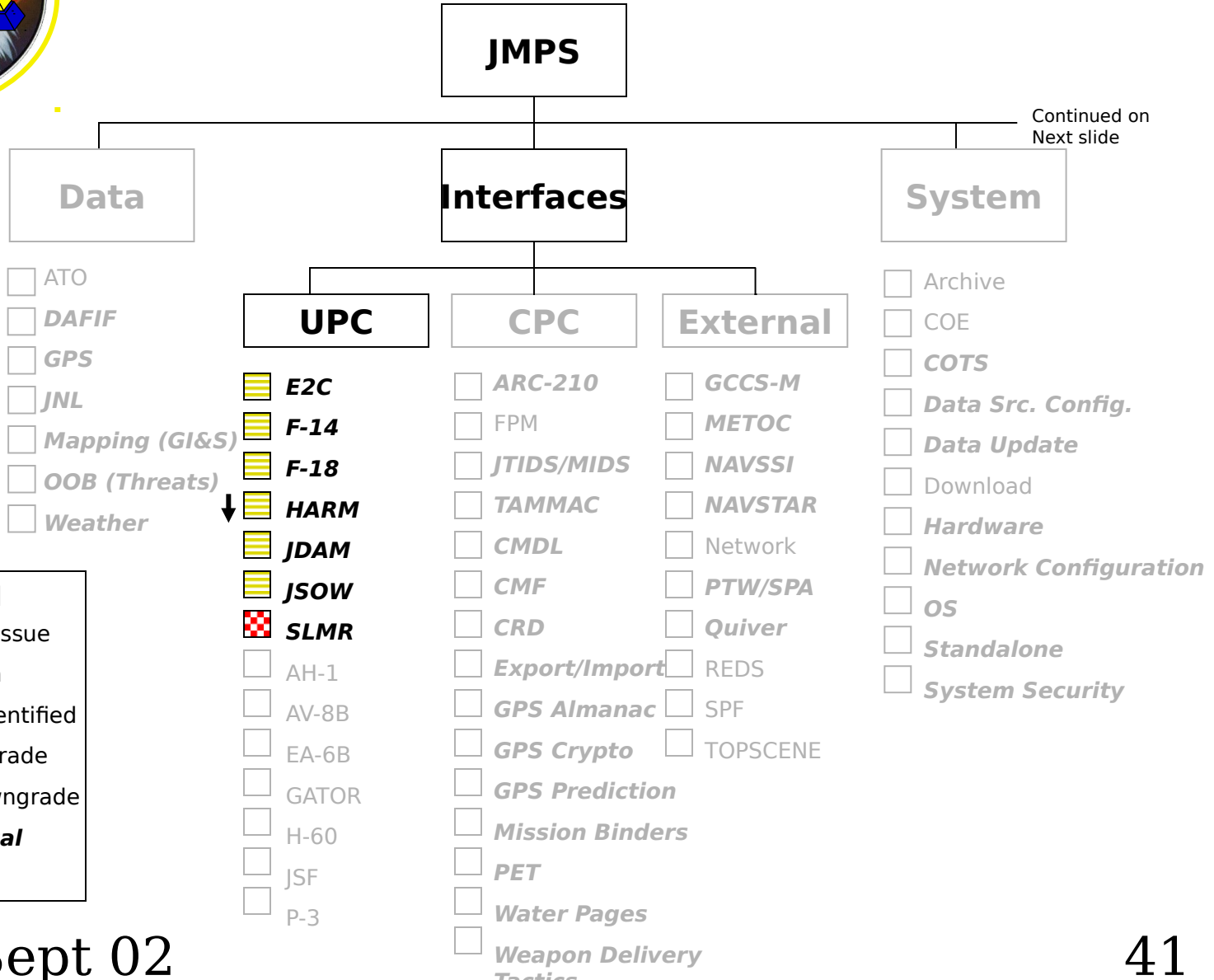
# 5. UPC Integration







# UPC Technical Assessment (Slide 1 of 2)



**Legend**

- ☒ No Known Issue
- ☒ Watch Item
- ☒ Problem Identified
- ↑ Status Upgrade
- ↓ Status Downgrade
- TOB Critical**
- Hyperlink**



# UPC Technical Assessment (Slide 2 of 2)





# UPC Risk/Issue/Problem Detail

Legend	
	No Known Issue
	Minor Issue
	Major Issue

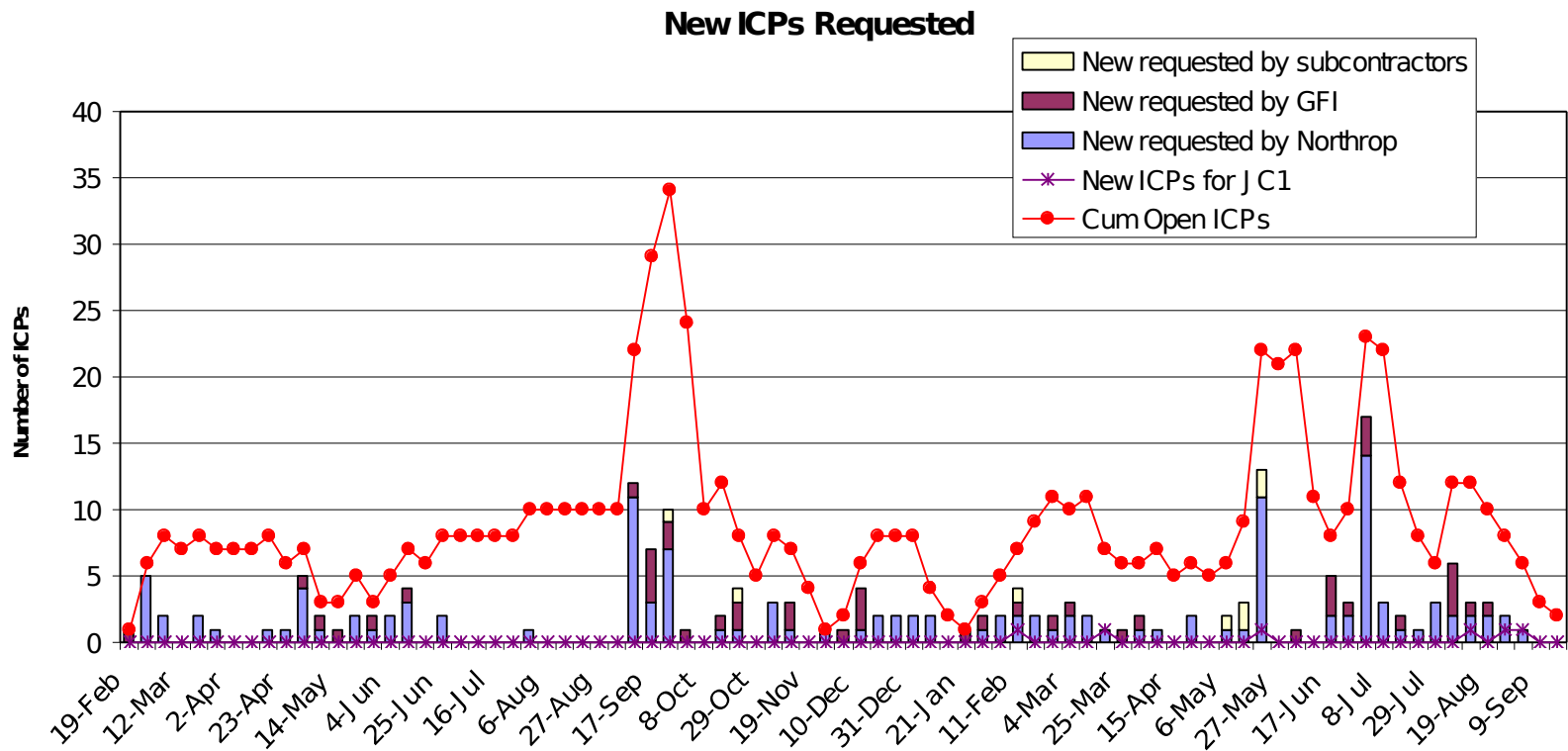
UPC	Reqmt	Devel op- ment	Interf ace	Cost	Sched ule	Staffin g	Other
E-2C	1		3↑				7↓
F-14			3↑				
F-18			3				
HARM					4↑	4↑	6
JDAM	2↑						6
JSOW	2↑						6
SLMR	2↑					5	

1. An interface to VMAP0 data was exposed providing E2C UPC developers access to map line segment data. After working with the undocumented interface, it appears to satisfy their needs.
2. NGIT's proposal for additional methods on DTED has been received, negotiated, and funded.
3. Late integration of fully functional Pointing Export Tool, CMDL, and GPS Crypto key components may impact development. There is no public interface to the Magnetic Variation Coefficient data, causing UPCs to access the data using its directory path which violates DIICOE compliance level 6.
4. NGIT is on contract to provide developer support directly to HARM. NGIT personnel have reviewed and commented on HARM's Use cases, and will be attending their software design meetings to ensure their developmental methodology and use of JMPs framework is correct.
5. The SLMR UPC Development Working Group continues to work development schedule issues. The Undefinitized Contract Award allows SLAMR development team to proceed.
6. The PGM UPCs have requested modifications to be made to make it easier to create a PGM routes.
7. Current contract for E2C UPC developer (Veridian) expires 1 Oct 2002. Funding and contract vehicle issues may impact current development effort.



# ICP Analysis

The ICWG Process Is Working!





# Risks Being Addressed by UPCIT

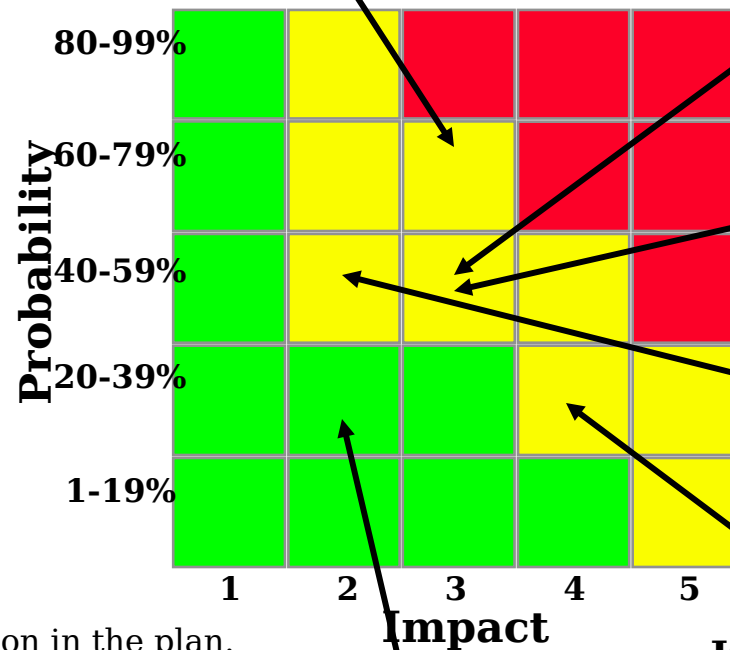
JC1 #164 - Missing or Partial Requirements May Impact UPCs

JV1 #039 - Impact of Unknown Interface/Design Changes

JC1 #056 - PTW 4.1 Imagery Availability

JC1 #074 - Parallel Development with UPCs

JC1 #176 - RTM Implementation Accuracy May Effect OT



JC1 #171 - DII COE v4.6 Impact to JC1 (watch)

High - Major disruption in the plan. May require Level 1 management or PEO(T) assistance.

Med- Some disruption in the plan. May require Level 1 assistance.

Low - Little or no disruption. Can be managed with internal team.



# UPC Team's Planned Program Contributions for October 02

## Top 5 Planned UPC Team Tasks

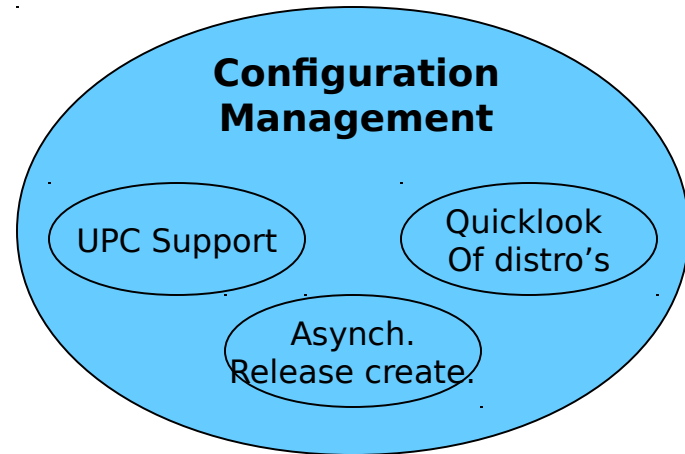
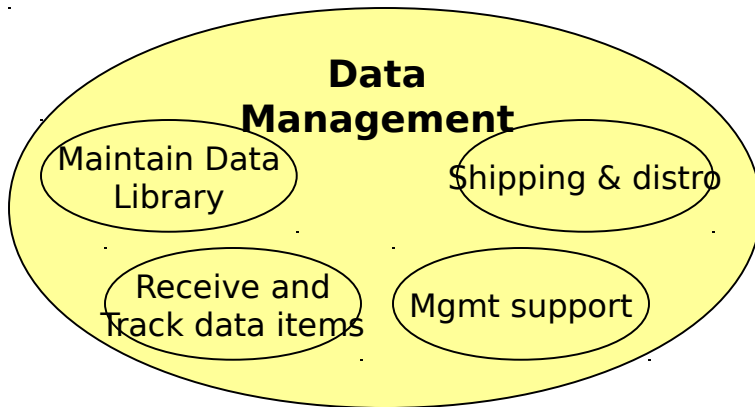
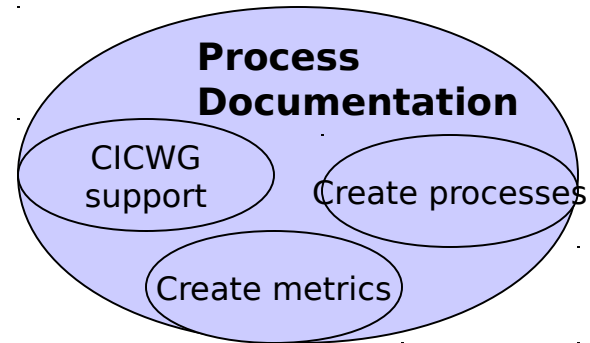
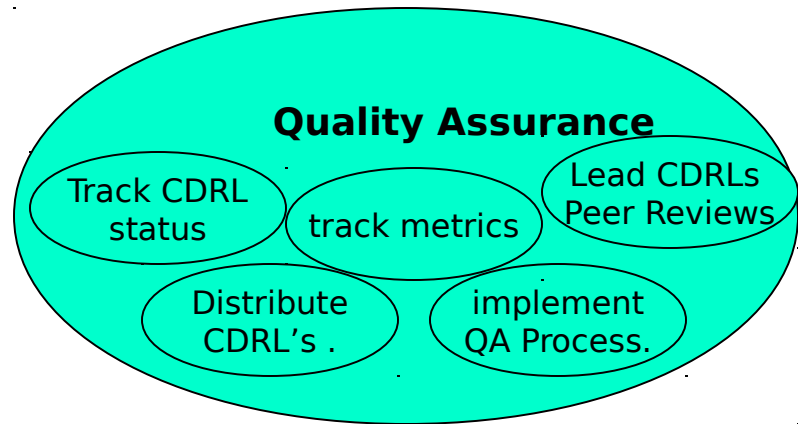
- Continue to conduct Discrepancy Review Boards (DRB) with the UPCs to review impact of Government Discrepancy Reports on UPC development efforts.
- Provide JMPS technical support and PMA-233 liaison to JC1 and future UPC developers
- Support JV1 and JC1 Risk Management Process by submitting, mitigating, and tracking risks.
- Continue to support weekly Component Interface Change Working Group (CICWG), JV1 GFI, Developer Support, and Security Working Group telecons.
- Work the issues on the System Engineering To-Do list, and outstanding action items from working group meetings.
- Review and comment on delivered CDRLs, such as the JC1 ICD.
- Provide the interface among the Common Capability Requirements Documents (CCRD), UPCs and JMPS Requirements team.

## Top 5 Planned UPC Team Leader's Tasks

- Conduct UPC Interface Working Group (UIWG) meetings to finalize UPC-to-UPC interfaces. Top issue is the one of creating PGM Routes.
- Address the issue of JMPS certification of components, and configuration control and management of JMPS and third party components
- Support on-demand tasking from JMPS System Engineers
- Coordinate efforts among team members based upon the changing stages of the JMPS life cycle
- Update UPC-to-UPC Developer Style Guide using results from UIWG



## 6. Product Integrity





# 2001 / 2002 CDRL Review Status

[Click Here to see CDRL review Tracking sheets](#)

## JMPS CDRLs

### Management

- ☒ A001 CWBS
- ☒ A002 CWBS Dictionary
- ☒ A003 IMS
- ☒ A004 SEMP
- ☒ ☒ A010 JMPS Security Targ.
- ☐ A011 SSAA
- ☒ A015 SDP
- ☒ A022 IMP (D)
- ☒ A022 IMP (F)
- ☐ A0XX Programmer's Guide
- ☒ B003 OPSEC Plan

### Requirements

- ☒ A005 Requirements DB
- ☒ A006 Elaboration Use Cases (D)
- ☒ A006 Elaboration Use Cases (F)
- ☒ A007 SDI
- ☒ A009 IRS (D)
- ☒ A009 IRS (F)
- ☒ A014 ICD

### Design

- ☒ A008 JC1 Object Model (D)
- ☐ A008 JC1 Object Model (F)
- ☒ A012 SVD
- ☒ A013 ICWG
- ☒ A016 Framework & Com. Comp.
- ☒ A017 JC1 Planning Comp.
- ☐ A018 SDK

### Test

- ☒ A020 STP

### Legend

- ☒ Review Finished
- ☒ In Progress
- ☐ Not Yet Delivered by NGIT
- ☒ Govt Response Late (Over 30 days)

27 Sept 02





# Status of Late JC1 CDRLs (as of 17 Sep 02)

- **A006**, Elaboration Use Cases (D); due 19 Jun 02; late 90 days (NAWC-WD completed technical review of draft in 11 days. Final version of A006 currently in review.)
- **A009**, Interface Requirements Specification (D); due on 30 Jun 02; late 79 days (NAWC-WD completed technical review of draft in 27 days.)
- **A009**, Interface Requirements Specification (F); due on 7 Sep 02; late 10 days (NAWC-WD completed technical review of revised document in 6 days.)
- **A010**, Update JMPS Security Target (I); due 1 Sep 02; late 16 days (PMA review only. CDRL POC advised he is waiting on Air Force and other reviewer input before submitting comments to PMA Contracts – current status unknown.)
- **A014**, Interface Control Document (F); due 8 Sep 02; late 9 days (NAWC-WD CDRL POC advised that she missed the deadline and is currently conducting the review.)
- **A012**, Software Version Description (F); due 8 Sep 02; late 9 days (NAWC-WD review missed 30 day deadline by 9 days – PMA notified that there were no technical comments.)
- **A016**, JMPS FW & Common Components, and **A017**, JC1 Planning Components are software data items which will be checked by T&I during the test process and findings handled via DRs, per the CDRL POC (No technical review conducted – PMA notified.)
- **A020**, Software Test Plan (D); due 14 Aug 02; late 34 days (NAWC-WD review missed the 30 day deadline by 15 days – PMA notified that there were no technical comments.)

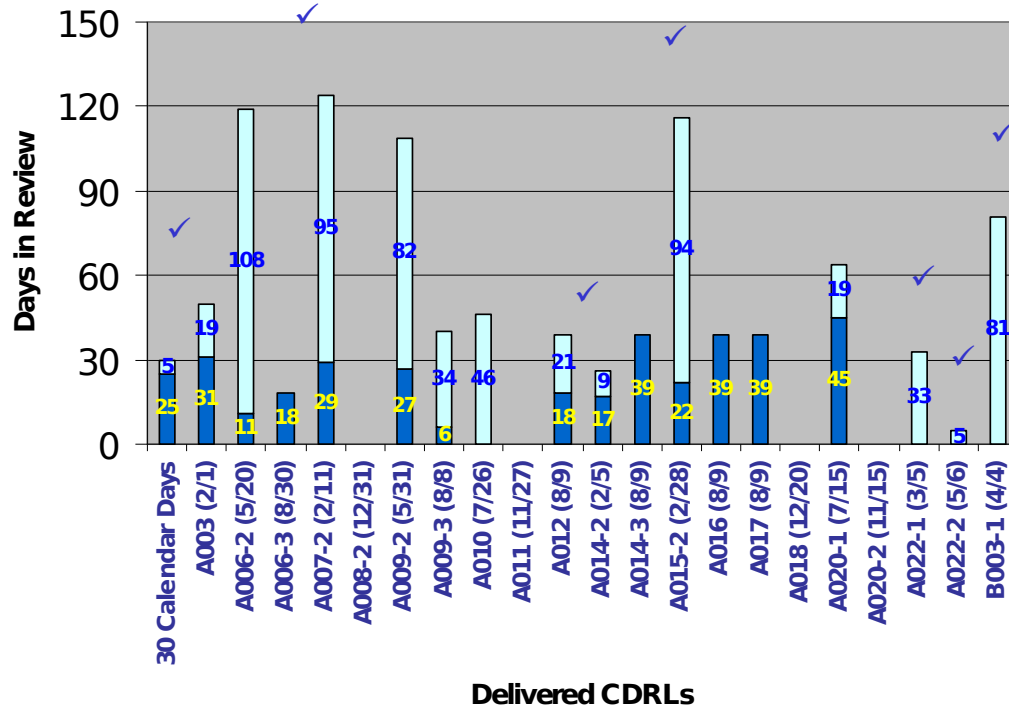
# JC1 CDRL Status



CDRL	CDRL Title	CDRL Subtitle	Contact	Due Date	Submittal Date	Government Response Due	Days Response Overdue/Status	Addressed Govt Comments	Final Gov't Approval	Resubmittal
B002	Cost Performance Report [F]	CPR	K. Brentlinger	23-Apr-02	4/23/2002	N/A	N/A			
B001	Contract Funds Status Report [F]	CFSR	K. Brentlinger	23-Apr-02	4/23/2002	N/A	N/A			
A006	Update J MPS Combat One Elaboration Use Cases [U]		M. Denny	06-May-02	5/6/2002 5/20/02	19-J un-02	90			
C003	AF PGMPs ROM Cost Estimate [P]		K. Longoria	06-May-02	5/6/2002	05-J un-02	Approved 6/21/02	n/a	6/21/2002	
C004	Integrated Schedule AF PGMPs [P]		K. Longoria	06-May-02	5/6/2002	05-J un-02	Approved 6/21/02	n/a	6/21/2002	
B002	Cost Performance Report [F]	CPR	K. Brentlinger	21-May-02	5/21/2002	N/A	N/A			
C005	J C1 AF PGMPs SOW [F]		K. Longoria	23-May-02	5/23/2002	22-J un-02	87			
A009	Interface Requirements Specification	IRS	M. Denny	31-May-02	5/31/2002	30-J un-02	79			
C001	Baseline Requirements Database [F]		K. Longoria	05-J un-02	6/5/2002 6/6/2002	06-J ul-02	Approved 7/18/02	n/a	7/18/2002	
C002	Develop Preliminary Elaboration Use Cases [F]		K. Longoria	05-J un-02	6/5/2002	05-J ul-02	74			
C003	AF PGMPs ROM Cost Estimate [F]		K. Longoria	05-J un-02	6/5/2002	05-J ul-02	Approved 7/18/02	n/a	7/18/2002	
C004	Integrated Schedule [F]		K. Longoria	05-J un-02	6/3/2002 6/6/2002	06-J ul-02	Approved 7/18/02	n/a	7/18/2002	
B002	Cost Performance Report [F]	CPR	K. Brentlinger	25-J un-02	6/25/2002	N/A	N/A	n/a	n/a	
A020	Software Test Plan [D]	STP	J. Lauro	12-J ul-02	7/15/2002	14-Aug-02	34			
B002	Cost Performance Report [F]	CPR	K. Brentlinger	23-J ul-02	7/23/2002	N/A				
B001	Contract Funds Status Report [F]	CFSR	K. Brentlinger	23-J ul-02	7/23/2002	N/A	N/A	n/a	n/a	
A010	Update J MPS Security Target [I]	ST	M. Denny	02-Aug-02	8/2/2002	01-Sep-02	16			
A009	Interface Requirements Specification	IRS	M. Denny	11-Aug-02	8/8/2002	07-Sep-02	10			
A014	Interface Control Document	ICD	M. Denny	11-Aug-02	8/9/2002	08-Sep-02	9			
A017	J C1 Planning Components [D]		S. Lewis	11-Aug-02	8/9/2002	08-Sep-02	9			
A016	J MPS FW & Common Components		S. Lewis	11-Aug-02	8/9/2002	08-Sep-02	9			
A012	Software Version Description [I]	SVD	L. Roberts	11-Aug-02	8/9/2002	08-Sep-02	9			
B002	Cost Performance Report [F]	CPR	K. Brentlinger	27-Aug-02	8/23/2002	N/A	N/A			
A006	Update J C1 Elaboration Use Cas [U]		M. Denny	30-Aug-02	8/30/2002	29-Sep-02	-12			
B003	Operations Security Plan [D]	OPSEC	J. Fields	01-Sep-02	8/27/2002	26-Sep-02	-9			
B002	Cost Performance Report [F]	CPR	K. Brentlinger	24-Sep-02						
B002	Cost Performance Report [F]	CPR	K. Brentlinger	22-Oct-02						
B001	Contract Funds Status Report [F]	CFSR	K. Brentlinger	22-Oct-02						
A020	Software Test Plan [F]	STP	J. Lauro	15-Nov-02						
B002	Cost Performance Report [F]	CPR	K. Brentlinger	26-Nov-02						
A011	System Security Authorization Agreement	SSAA	M. Denny	27-Nov-02						



## As of 17 September 2002 2002 J MPS IPT CDRL Review Status



✓ = CDRL reviews completed

□ Time required for PMA CDRL reviews & acceptance notification to NGIT

■ Time required for NAWC-WD technical CDRL reviews

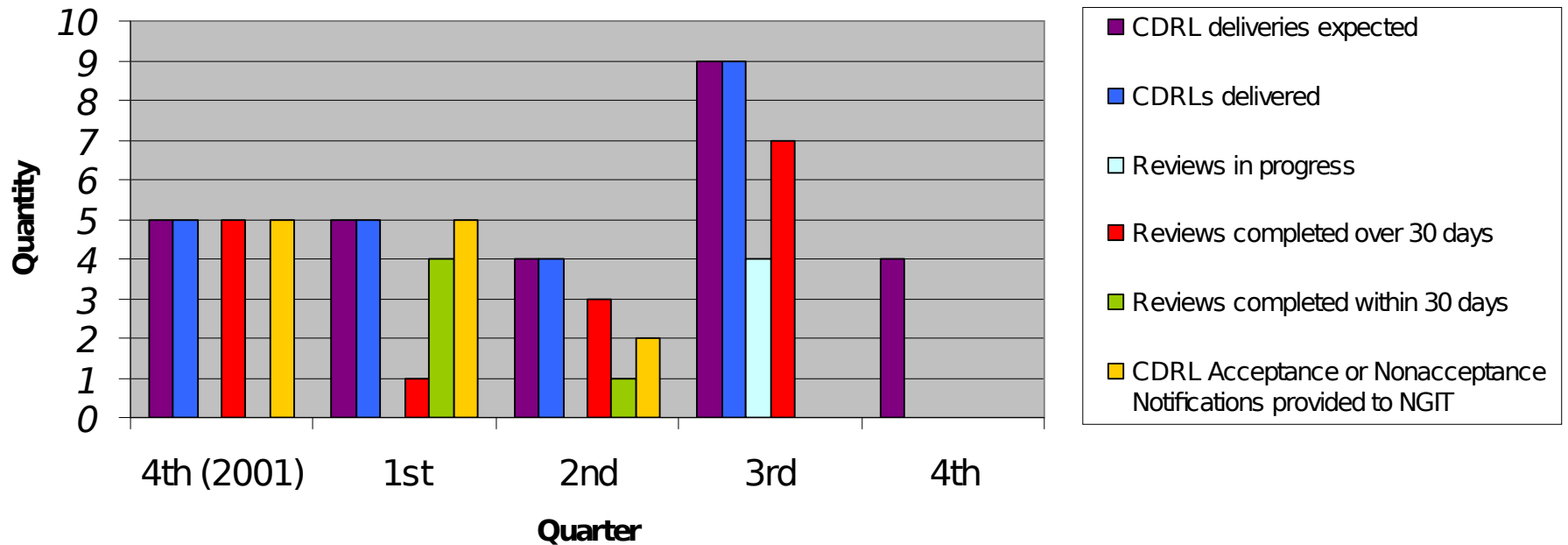
• CDRLs A006-2 (Elab.Use Cases), A009-2 & 3 (IRS), A012 (SVD), A016 (JMPS FW & Common Comp.), A017 (JC1 Planning Comp.), and A020 (STP) pending PMA review and letters of acceptance issued to NGIT.

• CDRLs A006-3 (Elab.Use Cases), A010 (Sec.Target), A014-3 (ICD), and B003-2 (OPSEC Plan) are currently in review.

• All other CDRL reviews are completed or pending delivery by NGIT.



## 2002 Quarterly J C1 CDRL Review History



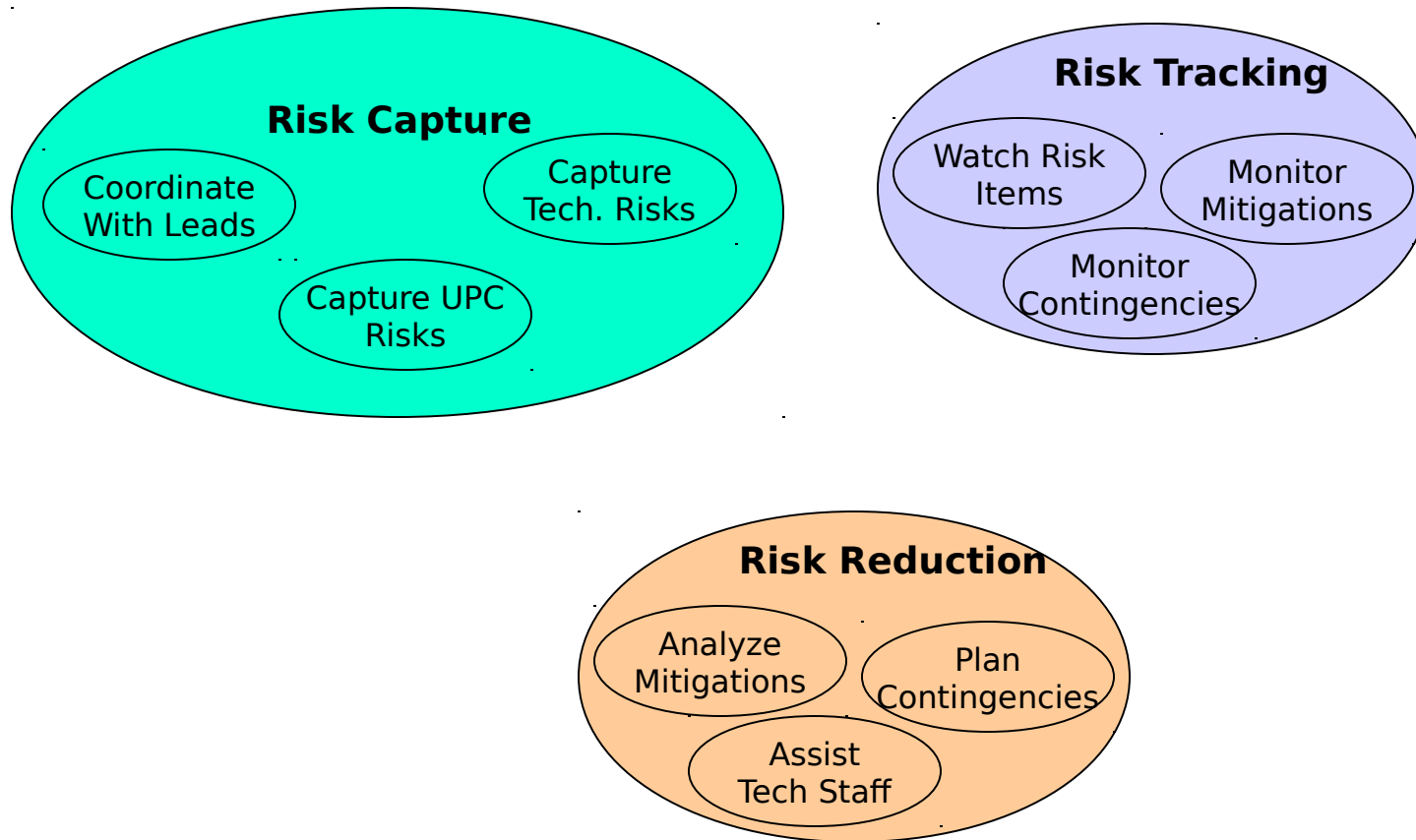


# PI Team's Planned Program Contributions for September 02

- Planned PI Team Tasks
- Finalize, and obtain signatures for the
  - Process Improvement Plan of Actions & Milestones (PI POA&M),
  - Training Plan
- Institute Process Improvement Process (PIP)
- Document DM & QA Plans & Processes
- Implement DM & QA Process



# 7. Risk/Issue Management





# Next Month's Presentation

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- This section will include performance to show our risk mitigation/contingency progress.
  - For example:
    - How many risks are assigned to NavMPS SE
    - How many have improved since last month, etc.

# Supporting Slides



Supporting Information  
Follows



# Requirements



## Supporting Slides

# JMPE System Engineering



Supporting Slides

# UPC Functionality



Supporting Slides

# Product Integrity



Supporting Slides

# J MPS IPT J C1 CDRL REVIEW STATUS

Green = CDRL Accepted Yellow = CDRL Conditionally Accepted Red = CDRL Unacceptable Blue = Review In Progress

**BACK**  
To CDRLs Slide

CDRL	CDRL	Govt CDRL Review			NGIT Delivery Dates		Latest Version Reviewed	Acceptance Notification Forwarded to NGIT	Primary Review POC	Comments
		Initial, Draft or Outline	Update or Revision	Final	Initial, Draft or Outline	Update or Final				
A001	Contract Work Breakdown Structure (CWBS)					10-Aug-01	Final	2-Apr-02	PMA	Final Govt approval: 2 Apr 02
A002	Contract Work Breakdown Structure Dictionary					26-Sep-01	Final	20-Mar-02	PMA	Pending final Govt approval.
A003	Integrated Master Schedule (IMS)					1-Feb-02	Final	10-May-02	PMA	Final Govt approval: 10 May 02
A004	Update System Engineering Management Plan (SEMP)					16-Oct-01	Update	8-Mar-02	NAWC-WD	Final Govt approval (w/comments): 9 Jul 02 NGIT resubmitted for approval with comments addressed : 22 Jul 02
A005	Baselined Requirements Database					21-Sep-01	Final	18-Mar-02	NAWC-WD	Final Govt approval: 18 Mar 02
A006	J C1 Elaboration Use Cases				20-May-02	30-Aug-02	Final		NAWC-WD	Data item review completed. Pending acceptance notification from PMA to NGIT. Final in review.
A007	Software Design Instruction (SDI)				10-Aug-01	11-Feb-02	Final	8-Mar-02	NAWC-WD	Pending final Govt approval.
A008	J MPS Combat One Object Model				15-Oct-01	31-Dec-02	Initial	18-Mar-02	NAWC-WD	Final Govt approval: 18 Mar 02
A009	Update Interface Requirements Specification (IRS)				27-Sep-01	31-May-02	Final		NAWC-WD	Data item review completed. Pending acceptance notification from PMA Contracts to NGIT.
A010	Update J MPS Security Target				26-Jul-02		Update		PMA	In review.
A011	System Security Authorization Agreement (SSAA)				27-Nov-02	15-Sep-03			PMA	
A012	Software Version Description (SVD)				12-Aug-02		Final		NAWC-WD	Pending final Govt approval.
A013	Tech Report: Interface Development Mgt & Control (ICWG)	NA	NA			21-Dec-01	Final	2-Apr-02	NAWC-WD	Pending final Govt approval.

27 Sept 02

61

# J MPS IPT J C1 CDRL REVIEW STATUS

**BACK**  
To CDRLs Slide

**Green** =CDRL Accepted **Yellow** =CDRL Conditionally Accepted **Red** =CDRL Unacceptable **Blue** =Review In Progress

CDRL	CDRL	Govt CDRL Review			NGIT Delivery Dates		Latest Version Reviewed	Acceptance Notification Forwarded to NGIT	Primary Review POC	CDRL Status
		Initial, Draft or Outline	Update or Revision	Final	Initial, Draft or Outline	Update or Final				
<b>A014</b>	Interface Control Document (ICD)				10-Oct-01	09-Aug-02	Final		NAWC-WD	CDRL A014 re-negotiated btwn NGIT and PMA-233; re-submitted with corrections for review on 9 Aug 02. <b>Pending final Govt approval.</b>
<b>A015</b>	Update Software Development Plan (SDP)	NA			10-Aug-01	28-Feb-02	Final	28-Mar-02	NAWC-WD	Final Govt approval: 18 Jul 02
<b>A016</b>	J MPS Framework and Common Components				12-Aug-02		Final		NAWC-WD	Data item reviewed by T&I testing of J C1 0.1 and submission of DRs, per J . Montemayor. <b>Pending final Govt approval.</b>
<b>A017</b>	J MPS Combat One Planning Components				12-Aug-02		Final		NAWC-WD	Data item reviewed by T&I testing of J C1 0.1 and submission of DRs, per J . Montemayor. <b>Pending final Govt approval.</b>
<b>A018</b>	Update J MPS Software Development Kit (SDK)				20-Dec-02				NAWC-WD	
<b>A019</b>	Software Test Report (STR)				20-Feb-03				NAWC-WD	
<b>A020</b>	Software Test Plan (STP)				15-Jul-02	15-Nov-02	Draft		NAWC-WD	<b>Pending final Govt approval.</b>
<b>A021</b>	Software Test Description (STD)				09-Jan-03				NAWC-WD	
<b>A022</b>	Integrated Master Plan (IMP)				05-Mar-02	06-May-02	Final	9-May-02	PMA	Final Govt approval: 9 May 02
<b>A0XX</b>	Programmer's Guide for J MPS				TBD	TBD			NAWC-WD	Awaiting issuance of formal CDRL DD Form 1423-1 (TBD)
<b>B003</b>	OPSEC Plan				04-Apr-02	27-Aug-02	Final		PMA	<b>Pending final Govt approval.</b>

27 Sept 02

62

# J MPS IPT J C1 CFSR / CPR CDRL DELIVERY STATUS

**Green** = Delivered On Schedule    **Yellow** = Delivered After Due Date    **Red** = Not Delivered

**BACK**  
To CDRLs Slide

CDRL		Delivery Date	Status	CDRL		Delivery Date	
B001-1	Cost Funds Status Report (CFSR)	22-J an-02		B002-1	Cost Performance Report (CPR)	25-Sep-01	
B001-2	Cost Funds Status Report (CFSR)	23-Apr-02		B002-2	Cost Performance Report (CPR)	23-Oct-01	
B001-3	Cost Funds Status Report (CFSR)	23-J ul-02		B002-3	Cost Performance Report (CPR)	27-Nov-01	
B001-4	Cost Funds Status Report (CFSR)	22-Oct-02		B002-4	Cost Performance Report (CPR)	21-Dec-01	
B001-5	Cost Funds Status Report (CFSR)	24-J an-03		B002-5	Cost Performance Report (CPR)	22-J an-02	
B001-6	Cost Funds Status Report (CFSR)	22-Apr-03		B002-6	Cost Performance Report (CPR)	26-Feb-02	
B001-7	Cost Funds Status Report (CFSR)	22-J ul-03		B002-7	Cost Performance Report (CPR)	26-Mar-02	
B001-8	Cost Funds Status Report (CFSR)	21-Oct-03		B002-8	Cost Performance Report (CPR)	23-Apr-02	
				B002-9	Cost Performance Report (CPR)	21-May-02	
				B002-10	Cost Performance Report (CPR)	25-J un-02	
				B002-11	Cost Performance Report (CPR)	23-J ul-02	
				B002-12	Cost Performance Report (CPR)	27-Aug-02	
				B002-13	Cost Performance Report (CPR)	24-Sep-02	
				B002-14	Cost Performance Report (CPR)	22-Oct-02	
				B002-15	Cost Performance Report (CPR)	26-Nov-02	
				B002-16	Cost Performance Report (CPR)	23-Dec-02	
				B002-17	Cost Performance Report (CPR)	24-J an-03	
				B002-18	Cost Performance Report (CPR)	25-Feb-03	
				B002-19	Cost Performance Report (CPR)	25-Mar-03	
				B002-20	Cost Performance Report (CPR)	22-Apr-03	
				B002-21	Cost Performance Report (CPR)	27-May-03	
				B002-22	Cost Performance Report (CPR)	24-J un-03	
				B002-23	Cost Performance Report (CPR)	22-J ul-03	
				B002-24	Cost Performance Report (CPR)	26-Aug-03	
				B002-25	Cost Performance Report (CPR)	23-Sep-03	
				B002-26	Cost Performance Report (CPR)	21-Oct-03	

27 Sept 02

63

# Risk Management



Supporting Slides



# JC1 Risk #003 JMPS V1 Acceptability and/or Rework



**BACK**

To Risk Slide

**Risk 003 JMPS V1 Acceptability and/or rework** Ranked 2 out of 26 risks

**Description:** There is a risk that the schedule for the release of the first set of components for JMPS Combat Planning will slip if JMPS V1 is not accepted by the users, or it requires a lot of re-work late in the development cycle.

**Probability:** 90 (%)

**Exposure:** 2.70

**Impact:** 3 **Impact Time Frame:** Sep 15 2001 **to:** EOP

**Days**

**to Impact Time Frame:** 0

## **Contingency Plan**

Conduct criticality analysis with JC1 IPT and UPCs to determine how much of a JC1 schedule slip, if any, is warranted.

Research schedule alternatives based on HW/SW support for TAMPs and other scheduled Air Craft OTs. Consider

JMPS specific OT.

Budget \$500 K for a JMPS specific OT.

Budget \$1M in '03/'04 for potential schedule slip. (Accommodates other schedule related risks as well)

## **Mitigation Plan**

NavMPS engineers follow V1 development and test efforts, monitoring the status of Betas 3, 4 and 5.

-- DRAFT -- NAVAIR WD

# JC1 RISK #003 JMPS V1

## Acceptability and/or Rework (cont.)



**BACK**  
To Risk Slide

### Mitigation Steps

Step	Description	Person	Due Date
1	Report to UPC developers at end of Beta 3 testing Feb 02 00 Yes	Andrew Chen	
2	Report from UPC Developers on problems with Beta 3 Mar 02 00 Yes	UPC	
3	Report to UPC developers at end of Beta 4 testing Sep 01 01 Yes	A Moore	
4	Report from UPC developers on problems with Beta 4 results Oct 01 01 Yes	UPC	
5	Report to UPCs at end of Beta 5.0 testing May 30 02 Yes	A Moore	
6	Report from UPC developers on problems with Beta 5.0 results May 30 02 Yes	UPC	
•	Query UPC developers for acceptability of JV1 product, A Gross 02 No performance enhancements and other IPR fixes for JV1 (Build 217 or later).		Sep 30
•	Report from Nellis on acceptability of JV1 product by Sep 20 02 No operational users 27 Sept 02	J Gardiner	
•	-- DRAFT -- NAVAIR WD		

# JC1 Risk #003 JMPS V1

## Acceptability and/or Rework (cont.)



**BACK**  
To Risk Slide

### Recent History Notes

Sep 11 2002 Risk Officers

In evaluating this risk more closely, the team has concluded that this risk combines issues related to UPC developers as well as operational users. There are three aspects to this risk 1. Will the developers find the product acceptable to develop with. 2. Will the operational user community find the product acceptable to work with. 3. Will the amount of rework in the coming months affect the usability of the product? The risk team felt that the first item has been answered since the UPCs have been using the JV1 product and the JC1 developers have been able to implement new capabilities into the JV1 product. For item 2 it remains to be seen how the users will accept the product (indications at MPUC were positive, current evaluation at Nellis will give further insight).

Item 3 also remains to be seen as IPRs are boarded and fixed. The decision was to leave this risk as red-for-DRAFT and review again after the Nellis evaluation.

27 Sept 02  
The steps to be

# JV1 Risk #047 Problem Correction Capacity



**BACK**  
To Risk Slide

**Risk 047**    ***Problem Correction Capacity***    Ranked **1** out of **9** risk

**Description:** A risk exists that the problem backlog may exceed the capacity and time frame available for correction and still produce a quality Beta 5 product (Applicable to 5.0, 5.1, and 5.2).

**Probability:** 90 (%)

**Exposure:** 2.70

**Impact:** 3    **Impact Time Frame:** Apr 03 2002    **to:** Oct 01 2002    **Days**  
**to Impact Time Frame:** 0

## Contingency Plan

Trigger 1: IPR arrival rate exceeds closure rate for two consecutive weeks.

Trigger 2: Fix capacity metric indicates insufficient capacity to fix IPR outstanding IPR's within schedule constraint

Basic Contingency Plan: JMPS IPT to address the following alternatives:

1. Identify priority three IPRs that may be deferred., potentially to post Beta 5.2, 9/23/02
2. Address expectations for stability of Beta 5.0
3. Defer FQT post Beta 5.1 allowing greater time to fix IPR's and include in Qualification Test.

## Mitigation Plan

Weekly monitoring of IPR arrival/closure and IPR fix capacity metrics to focus the program's progress on resolving

outstanding issues in the software. Maintain software development staff in sufficient numbers to

-- DRAFT -- NAVAIR WD

68

68

27 Sept 02

# JV1 Risk #047 Problem Correction Capacity



**BACK**  
To Risk Slide

## Mitigation Steps

Step	Description	Person	Due Date
	<b>Done?</b>		
1	Perform analysis of testing tool to allow automated capture/recreation of problem	NGIT	Yes
2	Review Priority 1 and 2 IPRs to ensure that capacity is directed toward priorities 1&2 versus 3 & 4 and that duplicates are eliminated. -On going for Beta 5.2	NGIT	Sep 23
3	Review priority 1 and 2 IPRs for existence of problems requiring multiple component expertise to solve. (On going)	No	
4	Co-locate all software resources location if required - On going	Joint	
	Apr 23 02 Yes		
5	Increase problem report capacity, i.e. staff additions - On going.	NGIT	
	Apr 19 02 Yes		
•	Test Community identified Beta 5.0 Must Fix IPRs at TRR.		Sep 23 02 Yes
7	Beta 5.0 developers continue to push on progress of test conduct/ IPR fix cycle. (On Going)	Yes	
8	Repeat steps 2-3 for Beta 5.1 and continue active weekly monitoring of arrival closure rates and IPR severities.	Yes	
	27 Sept 02 -- DRAFT -- NAVAIR WD		
9	Continued monitoring the fixee from the government so that A Moore		



# JV1 Risk #047 Problem Correction Capacity

**BACK**  
To Risk Slide

## Recent History Notes

Aug 29 02 Risk Officers Last week the data took a little back slide. Both NGIT and Tybrin being very careful as to what fixes are being made so as not to brake anything being prepared for the users at Nellis. Additional testing being done by Jerry Fleming's group which may increase the CERs on Tybrin products. Discussion about submitting the defects directly into the JMPS DRB. Current process is to review the CERs thru Jack at Tybrin and then on to the PCCB at NGIT. Need to look into improving the process so there is not a delay in getting show stopper defects resolved as quickly as possible. Added steps 10 and 11 to the mitigation plan.

Sep 12 02 Risk Officers Increased probability from 79 to 90% indicating an increase in the size of the backlog of fixes relative to the number of fixes accomplished over the past few weeks.

Not at problem status yet, but developers are concerned with the limited

time remaining -- DRAFT -- NAVAIR WD

Sep 17 02 27 Sept 02 NGIT is keeping up with the PRI